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# World Food Needs and Availabilities, 1987/88



## PREFACE

The food need levels reported are for the marketing years 1987/88 and 1988/89. As with any projection, assumptions must be made about future events. The assessment of food needs is based heavily upon projections of food crop production and financial ability to commercially import food. Food production is subject to the vagaries of weather and commercial import capacity is influenced by various international commodity and financial market conditions. Since neither weather nor international markets can be predicted with certainty, the food need levels contained in this report are subject to change.

To reflect current crop conditions and import capacity, each country is reviewed quarterly and an updated food needs level calculated for those countries judged to be facing conditions significantly different from those at the last assessment. For this reason, readers are encouraged to acquire current reports to keep abreast of changing food need levels. Readers are further advised that both the methodology and the data used in the calculations are continually being refined by the Interagency Food Aid Analysis Working Group. This effort reflects the continuing commitment of the U.S. Government to respond more rapidly and adequately to the needs of those countries where food commodity assistance can be used for humanitarian purposes and in the mutual interests of the recipient country and the U.S. Government.

As a result of a Presidential Initiative in the summer of 1984, an Interagency Food Aid Analysis Working Group was established to provide the U.S. Government with the best possible food needs assessment for countries in the developing world. This report is prepared under the aegis of the Interagency Working Group.

An assessment of world food needs has serious implications for both donor and recipient countries, and it has the potential to influence the expenditure of many millions of dollars and affect the lives of many millions of people.

It is, therefore, very important that readers clearly understand the issues that the Food Needs and Availabilities report addresses, and those it does not. This report is not an allocation or programming document, but an objective analytical assessment of food needs. Allocation and programming decisions are made in other forums and consider factors in addition to the food needs assessed in this report.

The assessment of food needs presented herein refers to the *amount of food needed* to cover the difference between a country's domestic food production plus its commercial import capacity, and either of the following two alternative measures of food need.

The *status quo* need is based on a country's recently achieved levels of food consumption, while the *nutrition-based* need is based on FAO's published information on minimum recommended dietary intake for each country. In addition, an estimate is made of the maximum absorbable imports if the highest historical levels of per capita total food use and carryover stocks were to be maintained. This assumes the food delivery systems in most food-aid-recipient countries have been "at capacity" at the highest historical level. None of these measures, taken individually, adequately reflects the range of objectives embodied within P.L. 480 legislation, nor does any one measure capture all factors considered in allocation and programming decisions.

**WORLD FOOD NEEDS  
AND  
AVAILABILITIES, 1987/88**

*AUGUST  
1987*



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## FOREWORD

This is the initial report in the *World Food Needs and Availabilities* series for 1987/88. Food needs assessments for 1987/88 update those published in the May 1987 report. The annual reports and supplements serve both the requirement of P.L. 480, as amended, that "global assessments of food production and needs" be submitted to the Congress, and the food needs analysis function of the Interagency Food Aid Analysis Working Group. Information provided through these reports to the Executive Branch and the Congress is employed along with other information in making tentative fiscal 1987 and 1988 food aid budget allocations. The main report and the supplements are also intended to provide detailed updates on food supplies and additional food needs on both a country-by-country and a world basis. This information is also useful to program and policy officials within donor governments and food-aid-recipient countries, analysts in international organizations and universities, and private agencies involved in food aid distribution.

This report presents two alternative measures of the overall food import requirements (commercial plus concessional) and the additional food needs of each country for 1987/88 and 1988/89. The *status quo* and *nutrition-based* assessments are based on two different sets of normative judgments and assumptions regarding the role of additional food and the considerations that might govern its use. The basic assumption underlying the *status quo* assessment is that additional food would be needed to prevent food supplies, and hence consumption, from falling below recent levels. Meeting *status quo* food needs would in principle stabilize per capita use by filling shortfalls in domestic production and import capacity. The *nutrition-based* assessment addresses the continuing problem of undernutrition in many of the developing countries. The assumption is that additional food would be needed to close the gap between food availabilities and an internationally accepted minimum nutritional standard. The *nutrition-based* estimates thus provide an aggregate measure of the nutritional gap, net of recipient countries' capacity to import food commercially. Calculation of zero *nutrition-based* food needs does not mean all citizens have a nutritionally adequate diet. In developing countries, poor nutrition is frequently the consequence of poor income distribution.

*Status quo* food needs assessments are stabilized by the method of estimating annual base period per capita food use. Base period food use is calculated as the mean of the most recent 4 years that deviate less than one standard deviation from the mean of the most recent 8 years of record. The method is explained in the Methodological Notes section of this report.

The most current available weather, crop production, and financial data were employed in making 1987/88 assessments. Where crop information was not yet available, estimates are based on initial indications of planting intentions and from historical production. With new or changed crop information, production and additional food needs estimates change, sometimes sharply. The supplementary reports issued through the year provide users with assessments based on current weather and crop information. The 1988/89 assessments are based on projected agricultural production, trade and general economic trends.

Estimates of commercial import capacity assume the continuance of recent experience in debt payment, and thus the availability of foreign exchange for commercial food purchases. Significant changes in debt payment performance would alter food import capacity and additional food needs.

Neither the *status quo* nor the *nutrition-based* food needs measures deals specifically with the ability of a country's infrastructure to absorb food aid without overloading port and transportation capacity, and storage and distribution systems. The maximum absorbable food imports assessment frequently limits the quantity of *nutrition-based* needs that can physically be provided. The "gap" between maximum absorbable and *nutrition-based* food needs is one measure of the seriousness of a country's food problem. In a very real sense, the magnitude of the task of achieving the financial and physical capacity to import food, or increasing domestic food production consistent with national food demand, is captured by this measure.

The import requirements and additional food need estimates in *World Food Needs and Availabilities* reports are based on national agricultural and economic data. These estimates assist financial and logistics planning by both donor and food aid recipient countries. It should be apparent, however, that additional food need levels are only a part of the calculus, and that delivering imported food to the communities that are deprived by national food production shortfalls or civil disturbances is a major undertaking. Factors bearing on success include local

transportation and communications infrastructure, the financial status of both local and national public service agencies, and the availability of international financial support. The supplementary assessments of additional food needs issued through the year are intended to add to the information available so that food and complementary financial and technical assistance can be made available in a timely fashion.

Ray W. Nightingale  
Food Needs Analysis Coordinator

## ACKNOWLEDGMENTS

Ray Nightingale directed the overall planning and preparation of the report and was assisted in coordination within the Economic Research Service by Chris Bolling, Rip Landes, Margaret Missiaen, and Fred Surls. Suzanne Marks developed and implemented the revised and standardized country food needs assessment computing modules and the corresponding regional analysis modules employed in preparation of this report. Suzanne also implemented new word processing software and was principally responsible for preparation of the final report.

The Economic Research Service economists providing analysis for the report included: Tim Baxter, Tom Bickerton, Chris Bolling, Richard Brown, Mary Burfisher, Robert Cummings, Gary Ender, Albert Evans, Rip Landes, Margaret Missiaen, John Parker, Peter Riley, Nydia Rivera-Suarez, Stacey Rosen, Leslie Ross, Sara Schwartz, Dave Skully, Mark Smith, Frederic Surls, Fawzi Taha, Ted Wilson, and Larry Witucki. Pat Scheid, Richard Shelton, Wanda Wade, and Renata Williams provided statistical support. Secretaries who helped prepare the report included Helen Joyner, Erma McCray, Lori McPherson, and Camelia Spence.

Interagency Food Aid Analysis Working Group food needs workshop contributors and reviewers for the Foreign Agricultural Service, USDA, were Margaret Mason and Dee Linse. Eight Agency for International Development staff participated in working sessions. Barry Riley represented the Office of Food for Peace, Bureau for Food and Voluntary Assistance before the World Agricultural Outlook Board. Ross Quan contributed in workshops and reviewed the report for the Department of State.

Art design on the cover has been given for use for World Food Day by the artist Ted Egri of Taos, New Mexico.

Reviewed and approved by the World Agricultural Outlook Board.

## SUMMARY

The detailed country tables and narratives in this report include information on the quantities and dollar values of assessed additional food needs, including the need for cereals, pulses, vegetable oils, and dairy products. This summary covers just additional need for cereal, the principal commodity employed in international food aid. Food needs assessments for 1987/88 and 1988/89 are based on information available in July 1987.

### *Assessed cereal needs in 1987/88*

Status quo cereal shortfalls for consumption requirements for 1987/88 in 69 developing countries are estimated at 8.8 million tons, 2.4 million tons above the May estimate, with large increases in East Africa and Asia partially offset by a decrease in North Africa. The 1987/88 shortfall is 2.2 million tons above estimated needs in 1986/87.

In Sub-Saharan Africa, cereal shortfalls are placed at 4.3 million tons, up 2.3 million from 1986/87. Additional food needs in East Africa and Southern Africa are estimated to increase 1 million and 943,000 tons, respectively. These needs may be partially offset by high stocks in several countries in both regions. Additional food needs will also increase in West and Central Africa. In North Africa, cereal shortfalls are expected to decline from 1986/87 levels. Lower prices will reduce the cost of grain imports, but many countries are experiencing diminished earnings from commodity exports.

Status quo needs in Asia, at 2.2 million tons for 1987/88, are up 1.26 million from 1986/87. In South Asia, Afghanistan and Bangladesh dominate with needs of 419,000 and 507,000, respectively. In Southeast Asia, Vietnam dominates, with 731,000 of the 849,000-ton total. While some Asian economies continue to show high rates of economic growth, a number of historically food-deficit countries have dwindling exports, declining remittances from overseas earnings, and rising debt obligations. Latin American status quo requirements, assessed at 499,000 tons for 1987/88, are almost unchanged from 1986/87, although in a few countries, adverse weather has reduced potential production. In several Latin American countries, the capacity to commercially import food is high, but dependent upon favorable debt negotiations.

The 69 countries are estimated to be short 19.7 million tons of cereals to meet minimum nutritional standards in 1987/88. This is an increase of 2.2 million tons over 1986/87 assessed needs to meet consumption requirements. Nutritional needs continue to be greatest in South Asia at 6 million tons and East Africa at 5.7 million tons. However, South Asian needs have declined 1.8 million tons from 1986/87, whereas East African needs have increased by 1.4 million. Nutrition-based needs have also increased in Southern Africa by 1.4 million tons. Maximum import capacities imposed by limited storage and internal transportation constrain the ability of many regions to meet their nutrition-based needs.

In periods of food shortfalls, stock adjustments do not greatly alter food needs assessments. But when countries acquire significantly larger stocks through a major recovery in production or through food assistance activities, these stock adjustments can be considerable. In some cases current stocks are not reflected in these adjustments. These are discussed in the country reports. When requirements for cereal stock adjustments are added to 1987/88 needs for consumption, total status quo needs increase to 9.1 million tons. However, the stock adjustment reduces Southern African status quo needs by 487,000 tons.

### *Assessed cereal needs in 1988/89*

Status quo cereal shortfalls for 1988/89 in 69 developing countries are estimated at 7.9 million tons, down 991,000 tons from 1987/88. In Sub-Saharan Africa, status quo cereal needs for consumption in 1988/89 continue at about 4.2 million tons, as declines in Southern African needs are offset by increases in East Africa. In North Africa, status quo needs decrease by 745,000 tons. Status quo needs in South Asia also decline by 403,000. South American status quo needs increase by 164,000 over 1987/88.

Nutrition-based needs, at 18.8 million tons for 1988/89, are projected to decline from 1987/88 by 891,000 tons overall, with continued improvement in the food situation in South Asia. Nutrition-based needs for 1988/89 are projected to increase by 518,000 in East Africa, and decrease by 384,000 tons in Southern Africa. South American needs are projected to increase by 309,000 tons.

*Additional cereal needs to support consumption, stocks adjustments, and maximum absorbable cereal needs*

Region	Status quo		Nutrition-based		Maximum 1/
	Consumption	Consumption + stocks	Consumption	Consumption + stocks	
----- Thousand tons (cereal equivalent) 2/ -----					
1984/85					
	Total	11,745	13,450	25,767	27,472
1985/86	Total	8,811	9,503	20,253	21,036
1986/87 4/	Total	6,660	7,851	17,473	18,105
1987/88	Total	8,844	9,080	19,682	19,738
Africa		5,500	5,685	11,239	10,728
North Africa		1,234	1,719	0	0
Sub-Saharan Africa		4,266	3,966	11,239	10,728
West Africa		459	530	1,842	1,916
Central Africa		311	323	443	455
East Africa		1,987	2,092	5,696	5,784
Southern Africa		1,509	1,022	3,257	2,573
Middle East		686	743	481	538
Asia		2,158	2,122	6,805	7,204
South Asia		1,309	1,265	6,035	6,425
Southeast Asia		849	858	770	779
Latin America		499	529	1,158	1,269
Caribbean		87	93	61	66
Central America		220	244	469	517
South America		192	192	628	685
1988/89	Total	7,853	8,555	18,791	19,433
Africa		4,691	5,278	11,338	11,858
North Africa		489	558	0	0
Sub-Saharan Africa		4,203	4,720	11,338	11,858
West Africa		449	461	1,789	1,804
Central Africa		326	336	462	471
East Africa		2,456	2,532	6,214	6,290
Southern Africa		971	1,392	2,873	3,294
Middle East		623	637	415	429
Asia		1,875	1,901	5,576	5,601
South Asia		906	931	4,707	4,732
Southeast Asia		969	970	869	870
Latin America		664	740	1,462	1,545
Caribbean		87	87	64	64
Central America		220	225	461	473
South America		356	427	937	1,007

1/ Imports consistent with maximum recent levels of consumption and food stocks.

2/ Major cereals, and the cereal equivalent of shortfalls in roots and tubers.

3/ Maximum absorbable needs not computed in 1984/85.

4/ Final 1986/87 assessment, May 1987 *World Food Needs and Availabilities report*.

## WORLD FOOD SITUATION AND OUTLOOK

The world food situation in 1986/87 is one of very large supplies and low prices on world markets. This situation is expected to continue in 1987/88. Global food supplies reached record levels in 1986/87, as both production and carryin stocks increased. Production declined in the developed countries, particularly in the United States, but the decline was offset by increased output in centrally planned and developing countries. Output in Africa increased again after the 1985/86 recovery from 2 years of drought. The large world harvests of the last 2 years have outpaced growth in consumption, and world stocks of grains and oilseeds remain at record levels. World food production in 1987/88 is forecast to fall slightly as some exporting countries make area adjustments in response to low prices. But total supply will remain about the same because of record carryin stocks.

World cereal production increased slightly over 1 percent in 1986/87. Wheat accounted for all of the increase with output rising more than 6 percent after a 2-percent drop the previous year. The largest gain occurred in the Soviet Union, where record yields resulted in a 14-percent rise in grain production. China, Canada, and the European Community also registered gains, offsetting the 14-percent production decline in the United States. Rice output declined slightly due in part to a 7-percent decline in Indian production. Coarse grain production declined about 1 percent. The United States accounts for all the 1986/87 decline, with output falling 8 percent due to a 9-percent drop in area. Production outside the United States rose 2 percent, led by a 26-percent increase in Brazil, and a 5-percent gain in China.

The world's per capita food production dipped slightly in 1986/87, largely because of lower output in the United States and in other exporting countries. But large stocks meant continued ample food supplies. Per capita food production declined 3 percent in developed countries, but the decline was offset by gains in the centrally planned countries. Per capita production in the developing countries dropped slightly. Sub-Saharan Africa's per capita output held steady after increasing for 2 consecutive years, but still has not recovered to the level of the early eighties.

World trade in grains has increased in 1986/87 following the 8-year low recorded in 1985/86, while trade in edible oils has dropped slightly. Record grain supplies, intense exporter competition, and lower U.S. loan rates have pushed grain prices lower and trade in both wheat and coarse grains is up. The increase is mainly due to strong import activity in the USSR, China, and the Middle East. But macroeconomic conditions--particularly the large debt burden and foreign exchange shortages--continue to depress imports in some countries. The United States has benefited the most from higher trade, with exports of wheat and coarse grains increasing nearly 14 million tons as the combination of lower loan rates and expanded export programs make U.S. grains more competitive in world markets. The lower loan rates mandated by the Food Security Act of 1985 have contributed to the sharp drop in world market prices.

A record world oilseed crop despite lower U.S. soybean production contributed to record world vegetable oil production in 1986/87. The first drop in palm oil production since 1982/1983 was more than offset by larger production of soybean and rapeseed oils. Large stocks have added to the impact of these supplies, and prices have dropped again following the sharp drops in 1985/86. Large crops and stocks are limiting importer demand, and world vegetable oil trade is flat.

The outlook for 1987/88 food availabilities is again favorable. Grain production will fall, but record carryin stocks will mean record supplies. World grain production is projected to be down nearly 2.5 percent, with much of the decline again coming from the United States, where output is projected to be off 11 percent under the combined impact of depressed prices and area reductions. World market grain prices will remain low; wheat and rice prices may drop a bit more, although coarse grain and oilseed prices may begin to recover. Credit programs will be available to many buyers, particularly from the United States and the European Community. World trade in cereals is expected to increase 5 percent during 1987/88 due largely to expanded imports by the USSR and China. Imports by other countries are expected to grow only modestly. Production gains in some key importing countries, together with continued financial difficulties for some importers, will continue to constrain expansion in import demand.

Another record world oilseed crop is in prospect for 1987/88, with output expected to gain 2.5 percent. With palm oil output likely to resume its upward trend, world edible oil production will again be a record, and ample supplies will be available on world markets. Prices are likely to remain low.

### *Cereal Situation and Outlook*

Global 1986/87 cereal production of 1.68 billion tons was a record, 1 percent above the previous year. Wheat led the gains in output. Although the 20-million-ton gain in USSR grain production was the largest, there were significant gains in China, Brazil, and North Africa. With 1986/87 beginning stocks the largest on record, supplies were up about 110 million tons, and exceeded 2 billion tons for the first time. World grain trade for the year will likely total 189 million tons, up 8 million from 1985/86, but the second lowest level since 1978/79. Consumption is expected to rise 4 percent, exceeding 1985/86 by 69 million tons. Consumption gains are not large enough to offset higher production, so 1986/87 world cereal stocks are expected to rise by 40 million tons.

In 1987/88 world cereal production is forecast to decline 42 million tons, reversing the trend of the 3 previous years. However, with record beginning stocks, world grain supplies will hold steady at 2.03 billion tons. Utilization of grain is forecast to expand by less than 1 percent to 1.66 billion tons.

In 1986/87, global wheat consumption increased 6 percent to 519 million tons. Larger feed use accounted for part of the gain. Much of the year-to-year consumption increase was in the USSR and China, where crops were larger. The developing countries' wheat use rose by nearly 8 million tons. Global trade rose by 5.7 million tons (7 percent) from 1985/86. Much of the rise was due to increased imports by the USSR, China, and several Asian countries.

In 1987/88, global wheat production of 509 million tons is expected to be down 4 percent because of a 22-million-ton drop in foreign production. The largest share of the decline is due to a weather-related drop of nearly 17 million tons in the USSR. There are also price-related area reductions in some exporting countries, particularly Canada and Australia, although exporter production as a whole is expected to decline only marginally because of larger crops in Argentina and the EC. China's and Eastern Europe's wheat crops may be down slightly from 1986/87. While many of the developing countries will maintain their 1986/87 production levels, some countries such as Brazil, Mexico, and Morocco may experience significant declines in output. World wheat consumption is expected to be down 10 million tons from the 1986/87 record of 519 million tons, due to lower feed use. There will be gains in the developing countries, fueled by slightly higher production and increased imports. World trade is expected to be up 7 million tons but will remain about 9 million tons below the 1984/85 record. However, if USSR imports are excluded, world trade will be only 2 million tons below 1984/85.

Since most of the major exporters will have entered 1987/88 with relatively large stocks and crops are large in many importing countries, competition among exporters will remain intense. This, combined with a further drop in the U.S. loan rate for wheat and a continuation of the U.S. Export Enhancement Program, will mean continued low export prices in 1987/88. Imports by developing countries are expected to increase 1 million above the 1986/87 level.

Global rice production declined 1 percent in 1986/87 to 317 million tons (milled basis), with foreign producers accounting for all the losses. But this was a very large crop, and the near-record carryin stocks meant that supplies for the year were a record. Among the major rice importers, production fell slightly, mostly due to a 400,000-ton decline in Indonesia.

Production among the major foreign rice exporters fell 2 percent as an 8-percent decline in Thailand more than offset a large crop in Pakistan. Increases in use were registered by several developing countries, particularly Bangladesh, India, and Indonesia. Increased production in Brazil is precluding rice imports, so that world rice trade in calendar 1987 will be 900,000 tons below 1986. Reduced production and higher use will reduce stock levels by the end of 1987/88, following a near-record carryin in 1986/87.

A record world rice crop of 325 million tons is projected for 1987/88. While carryin stocks will be somewhat below last year, supplies will be another record. China and India are both projected to have near-record crops and, at this early point in the season, there is no reason to expect sharp declines elsewhere. World consumption is expected to gain about 2 percent for the year, and world rice trade in calendar 1988 is expected to total 11.8 million tons, about the same as the 1987 level.

Global coarse grain supplies remain abundant. In 1986/87, world coarse grain production dropped only 1 percent from the record high of the previous year. World production is expected to exceed utilization again so that ending stocks rise 18 percent to a new high. Although U.S. production dropped 22 million tons, foreign output rose 13 million tons to a record. Brazil, USSR, Eastern Europe, and China have all registered large increases. Significant declines have occurred in the EC, Argentina, Australia, and Thailand, all important coarse grain exporters. However, world coarse grain trade will still increase by nearly 4 percent. For the developing countries as a group, coarse grain output is forecast up 3 percent, imports up 6 percent, and consumption up nearly 5 percent.

For 1987/88, world coarse grain production is forecast to decrease 3.5 percent. In a pattern similar to 1986/87, foreign production is projected to increase 7 million tons and set another record, while U.S. output falls 36 million tons. Idle coarse grain area in the United States will be the largest since 1983 because of acreage reduction and conservation reserve programs. Among other producers, few major production changes are currently forecast. The most significant increase is expected in China, where output is likely to jump 8 percent. Developing country production is forecast to increase 1 percent and consumption could go up 3 percent.

Although coarse grain prices may increase over the lows of 1986/87, they will remain attractive to importers during 1987/88. Global trade is forecast to rise 4 percent. Imports by the developing countries are likely to increase 6 percent. World utilization of coarse grains is projected to exceed production for the first time since 1983/84 and lead to a 7-percent decline in stocks. [Sara J. Schwartz and Peter Riley (202) 786-1691]

#### *Vegetable Oil Situation and Outlook*

World vegetable oil production in 1986/87 is a record 47 million tons, up slightly from 1985/86. Higher production of soybean and rapeseed oils has offset declines in the other oils. Palm oil output is off 3 percent, following explosive growth in 1985/86, because of weather-reduced production in Malaysia. Global consumption growth at 2 percent is well below year-earlier gains despite a 12-percent increase in rapeseed oil consumption. High rapeseed output in the EC, Eastern Europe, and China underlies the increased rapeseed oil use.

Ending vegetable oil stocks will fall an estimated 4 percent from the 1985/86 record to 5.2 million tons. All of the stock reduction will occur outside of the United States, however, as U.S. stocks are estimated up 63 percent to a record 1.2 million tons. Rising world demand for soybean meal has increased U.S. soybean oil output. Higher U.S. oil production, continued imports of cheaper oils, and very aggressive pricing by palm oil exporters have left large U.S. stocks. Total U.S. vegetable oil stocks as a share of domestic consumption have grown from 8 percent in 1984/85 to 19 percent in 1986/87, for example, while the ratio of foreign stocks to use over the same period has been stable at an average 10 percent.

Foreign consumption is up 2 percent against a 1-percent decline in production, and stocks are off 13 percent. In developing countries, use continues to lag output, despite lower production and higher consumption. Production and consumption are up in both the centrally planned and developed economies.

Prices of most oils continue to fall in 1986/87, although at a slower rate than a year ago. Average U.S. soybean oil prices are forecast 17 percent below the 1985/86 average. The October-June 1986/87 average price of Malaysian palm oil is up 13 percent however, reflecting lower production and stocks. As a result, the spread between soybean oil and Malaysian palm oil prices has narrowed in soybean oil's favor.

Global vegetable oil output in 1987/88 is forecast up 4 percent, with a 9 percent increase in palm and cottonseed oils pacing the expansion. Total consumption is also forecast up 4 percent, with use of rape, cottonseed, and peanut oils up 6-7 percent. Nearly all the production increase will take place outside the United States.

Availabilities in 1987/88 of the major traded oils will be up except for coconut oil. Coconut oil production in the Philippines is forecast off 21 percent and exports are estimated 18 percent lower than in 1986/87. Sunflowerseed oil output should be up over 2 percent because of larger Argentine production. Higher rapeseed oil output in the EC underlays an estimated 3-percent expansion in world exports. Although palm oil output is forecast up 9 percent, world exports should be held to a 2-percent increase because of higher domestic consumption in Indonesia and

Malaysia, the two largest producers. The Brazilian Government's decision in June 1987 to suspend soybean oil export registrations will not reduce supplies for importing countries because of forecast increases in U.S. and Argentine exports.

Higher consumption will result in a modest 5-percent decline in 1987/88 global ending stocks. Stocks are forecast to rise only 8 percent in the United States because of growth in domestic consumption and a marked increase--30 percent--in estimated exports. Successful export promotion under the PL-480 and CCC credit programs will be necessary to restrain the growth in U.S. stocks.

*Total cereals: World production, consumption, and net imports* <sup>1/</sup>

Region/country <sup>2/</sup>	1984/85			1985/86		
	Production	Consumption	Net imports <sup>3/</sup>	Production	Consumption	Net imports
----- Million metric tons -----						
Developed countries	600	438	-125	621	439	-99
United States	313	197	-94	345	201	-62
Canada	43	24	-22	49	25	-22
EC-12	174	147	-11	161	143	-17
Other Western Europe	18	16	-1	17	16	-2
South Africa	11	9	-1	11	9	-1
Japan	12	38	26	12	38	27
Oceania	29	7	-23	26	7	-21
Centrally planned countries	585	630	55	571	602	33
Eastern Europe	115	113	---	106	111	5
USSR	161	207	55	180	205	29
China	309	310	1	286	285	-1
Developing countries	460	522	69	473	532	61
Mexico/Central America	24	32	9	24	32	7
Venezuela	1	4	3	2	4	2
Brazil	30	36	6	33	38	6
Argentina	32	13	-19	26	12	-16
Other South America	10	13	3	10	13	3
North Africa/Middle East	49	90	41	55	94	38
Other Africa	40	50	10	48	53	8
South Asia	177	178	3	176	178	3
Southeast Asia	40	33	-7	41	33	-8
East Asia	15	27	13	15	29	13
World total	1,645	1,590	---	1,665	1,573	---

Source: USDA/ERS, as of July 1987.

<sup>1/</sup> Regional totals include some high-income developing countries not treated in this report.

<sup>2/</sup> Region and world totals may not add due to rounding

<sup>3/</sup> A negative figure indicates net exports.

*Total cereals: World production, consumption, and net imports, continued 1/*

Region/country <sup>3/</sup>	1986/87 <sup>2/</sup>			1987/88 <sup>2/</sup>		
	Production	Consumption	Net imports <sup>4/</sup>	Production	Consumption	Net imports
----- Million metric tons -----						
Developed countries	590	452	-115	555	449	-123
United States	314	210	-78	278	211	-85
Canada	58	25	-28	49	26	-27
EC-12	154	142	-17	164	142	-20
Other Western Europe	17	16	-1	17	16	-2
South Africa	11	9	-2	12	9	-1
Japan	12	38	27	11	40	27
Oceania	25	7	-19	23	8	18
Centrally planned countries	610	635	38	598	641	44
Eastern Europe	113	115	2	110	113	2
USSR	200	218	30	183	215	34
China	297	302	5	305	313	8
Developing countries	482	551	74	488	563	75
Mexico/Central America	24	33	9	23	33	11
Venezuela	2	4	2	2	4	2
Brazil	40	40	4	35	40	3
Argentina	23	12	-10	26	12	-13
Other South America	10	14	3	11	15	4
North Africa/Middle East	60	98	42	59	102	43
Other Africa	48	56	8	48	56	8
South Asia	180	181	2	186	187	2
Southeast Asia	39	33	-6	40	34	-6
East Asia	15	29	15	15	31	16
World total	1,683	1,638	---	1,641	1,654	---

Source: USDA/ERS, as of July 1987.

1/ Regional totals include some high-income developing countries not treated in this report.

2/ Forecast.

3/ Region and world totals may not add due to rounding.

4/ A negative figure indicates net exports.

*World supply and use of vegetable oils 1/*

Category	1983/84	1984/85	1985/86	1986/87 Forecast	1987/88 Forecast
----- Million metric tons -----					
Beginning stocks	3.98	3.85	4.39	5.46	5.23
Production	40.11	44.08	47.15	47.18	48.93
Imports	12.46	13.79	15.05	14.97	15.31
Consumption	40.33	43.08	45.83	46.89	48.76
Exports	12.43	14.27	15.31	15.47	15.74
Ending stocks	3.85	4.39	5.46	5.23	4.97

*Selected world cereal and oilseed prices*

Product	Marketing year	1982/83	1983/84	1984/85	1985/86	1986/87 Forecast	1987/88 Forecast
----- Dollars per metric ton -----							
Wheat, #2, HRW, f.o.b. U.S. Gulf ports	Junc/May	159	153	150	130	110	100-115
Rice, broken, f.o.b. Bangkok Thailand	Aug/July	270	268	236	222	210	200-220
Corn, f.o.b. U.S. Gulf ports	September/August	121	145	120	101	75	80-95
Soybean oil, Decatur	October/September	454	674	651	399	331	265-353

*Cereal carryover stocks*

	1969/70-1971/72	1984/85	1985/86	1986/87 Forecast	1987/88 Forecast
World Million metric tons Percent of consumption	185.0 16.2	255.6 16.0	346.2 22.0	385.7 23.5	368.1 22.1
United States Million metric tons	67.4	98.9	181.2	205.9	191.0

Source: USDA, as of July 1987.

1 / Edible vegetable oils including soybean, palm, sunflowerseed, rapeseed, cottonseed, peanut, olive, coconut, and palm kernel oils and excluding fish and linseed oils. Excludes palm oil transshipments through Singapore.

### Indices of world and regional food production

Region/country	Total food production						
	1980	1981	1982	1983	1984	1985	1986
(1976-78 = 100)							
Developed countries	105	108	110	102	112	114	111
United States	102	113	113	92	109	115	109
Canada	103	113	118	113	110	120	133
Western Europe	112	110	113	111	119	117	115
Japan	90	92	94	94	100	100	100
Oceania	98	106	98	115	114	116	115
South Africa	109	119	107	94	102	108	110
Centrally Planned countries	101	103	106	114	120	118	122
USSR	95	92	98	102	102	101	107
Eastern Europe	97	102	105	104	113	109	112
China	119	126	124	150	164	162	163
Developing countries	107	112	113	116	120	125	126
East Asia 1/	89	99	102	103	107	108	109
South Asia	103	111	108	120	123	126	125
Middle East	103	103	111	113	115	121	130
Sub-Saharan Africa	107	111	112	105	111	116	120
North Africa	110	105	114	112	115	127	135
Latin America 2/	112	116	116	115	122	127	122
World	104	108	110	110	117	119	119

### Indices of world and regional food production, continued

Region/country	Per capita food production						
	1980	1981	1982	1983	1984	1985	1986
(1976-78 = 100)							
Developed countries	102	105	106	98	107	108	105
United States	99	108	107	87	101	106	100
Canada	100	108	111	106	102	110	121
Western Europe	111	108	111	109	117	114	113
Japan	88	89	90	90	94	94	94
Oceania	95	102	92	107	105	105	103
South Africa	101	108	94	81	86	89	89
Centrally Planned countries	98	98	100	107	111	108	111
USSR	92	89	94	97	96	94	99
Eastern Europe	95	99	102	100	109	105	107
China	114	120	117	139	150	148	147
Developing countries	100	102	101	100	102	103	102
East Asia 1/	85	93	94	94	96	95	95
South Asia	96	101	97	105	105	105	102
Middle East	95	93	97	95	95	97	101
Sub-Saharan Africa	99	99	97	89	91	93	93
North Africa	101	94	98	94	94	101	104
Latin America 2/	104	106	103	100	103	105	99
World	99	101	101	99	104	104	103

Note: Production reported on a calendar year basis.

1/ Includes Southeast Asia regions shown in Total Cereals table.

2/ Includes Central America, Venezuela, Brazil, Argentina, and the other South America region shown in the Total Cereals table.

## FOOD AID AVAILABILITIES AND OUTLOOK

Cereal aid shipments in the July 1986-June 1987 trade year were an estimated 10.1 million tons, down only slightly from 1985/86, and almost 20 percent below the 1984/85 high. With the exception of recent highs in 1984/85 and 1985/86, estimated 1986/87 shipments were the largest in 15 years. If the estimates are correct, 1986/87 would be the third year in which the 1974 World Food Conference target of 10 million tons of cereal aid was achieved. The United States is estimated to have shipped close to two-thirds of the total, followed by the EC with 15 percent, Canada with less than 10 percent, and Australia and Japan with less than 5 percent each. Cereal food aid shipments in 1987/88 are expected to fall below the 1986/87 level.

Wheat and flour comprised the bulk of 1985/86 cereal shipments, followed by coarse grains and rice. More than half of the world cereal aid was shipped to Africa; Sub-Saharan Africa received a little more than one-third of the total. Asia received a little less than a third of the aid shipped, and Latin America received 15 percent. Poland also received a small amount. Top cereal aid recipients were Egypt, Bangladesh, Sudan, and Ethiopia.

As of April, donors had pledged about 3 million tons of cereal to Sub-Saharan Africa for 1986/87 or calendar year 1987. About half of this total was pledged by the United States. Chief recipients of all cereal aid to the region are Mozambique, Sudan, and Ethiopia. About 10 percent of all cereal aid pledges to the region are in the form of triangular transactions and local purchases. Triangular transactions are those in which a donor obtains food aid commodities for the recipient from a third country. Zimbabwe has been a frequent source of the commodities and Mozambique has been a large recipient. In some cases, surpluses exist within a country which also has food needs among some regions or population groups. The EC, Norway, and Switzerland together reported purchases of about 80,000 tons of surpluses for distribution as food aid within the same country. Mali, Senegal, Sudan, and others have received aid in this manner.

Developed countries assist third world nations to import needed goods and services and to promote development in a variety of ways. Total official development assistance (ODA) in 1985, the latest year for which data are available, was \$29.4 billion, up slightly from the 1984 level. Food aid from the OECD countries rose less than 5 percent to \$3 billion, the highest level in real terms in at least 10 years. Food aid as a share of total ODA in 1985 reached the highest level since 1981 at slightly more than 10 percent. The share of grant food aid (as opposed to concessional sales) fell from close to 77 percent in 1984 to 71 percent in 1985.

Multilateral food aid from the OECD countries fell about 10 percent to \$620 million in 1985. The multilateral share of total food aid fell from almost 23 percent to 20 percent not only because of the drop in multilateral aid, but also because of an increase in bilateral aid. The World Food Program (WFP) is the chief multilateral channel for distributing food aid.

The 500,000-ton minimum target of the International Emergency Food Reserve, administered by the WFP, was approached but not achieved in 1986 with 486,000 tons of cereals contributed. As of April 1987, pledges had been announced for 320,000 tons of cereals and small amounts of vegetable oils, powdered milk, and other commodities.

### UNITED STATES

In the wake of the African famine, U.S. food aid in the October 1985-September 1986 fiscal year started to return to pre-famine levels. Preliminary data indicate that the volume of food aid shipments fell to 6.2 million tons worth \$1.1 billion. Of the total, nearly 4.2 million tons were exported under Public Law (P.L.) 480 Title I/III agreements while 1.8 million tons were shipped under the P.L. 480 Title II donation program. Under authority of Section 416 of the Agricultural Act of 1949, as amended, more than 230,000 tons of dairy products, wheat, and bulgur wheat were exported.

The amount of P.L. 480 commodities programmed for shipment has declined recently. The fiscal 1987 program level of less than \$1.5 billion (approximately \$930 million under Titles I/III and about \$535 million under Title II) is approximately 15 percent lower than the fiscal 1986 program level. However, with lower commodity prices, the programmed volume is similar to that in fiscal 1986. Of the total P.L. 480 assistance in fiscal 1987, about 25 percent is programmed for Sub-Saharan Africa and Asia each, slightly less for Latin America, 20 percent for Northern Africa and the Middle East, and a small amount for Poland.

While P.L. 480 program levels decrease, additional food aid under Section 416 continues to rise. As of July 1, transactions under the fiscal 1987 program, including the Sugar Quota Offset Program, totaled 890,000 tons. Under Section 416, commodities may be provided under the Food for Progress program, which is targeted to those countries committed to market-oriented agricultural policy reform. Madagascar and Guinea have each received 30,000 tons of rice under the Food for Progress program.

The United States has consistently exceeded its pledge to the Food Aid Convention (FAC) whose members, in aggregate, pledge to provide a minimum of about 7.5 million tons of cereal aid annually. In trade year 1986/87, the United States is again expected to exceed its 4.47-million-ton pledge.

The outlook for U.S. food aid will depend in part on Congressional action. The Administration has proposed a fiscal 1988 P.L. 480 program level of nearly \$1.4 billion, about 5 percent less in value terms than in fiscal 1987. As proposed, the Title I/III program level would fall to slightly more than \$850 million, while that of Title II would remain essentially unchanged. However, actual levels must await the outcome of the budget process. The volume of commodities programmed under Section 416 depends largely on Commodity Credit Corporation (CCC) inventories. Future program levels will depend upon the size of the CCC inventories and approved program requests.

### **AUSTRALIA**

The FAO estimates that Australian cereal aid shipments in the 1985/86 trade year were about 350,000 tons, down from 466,000 in 1984/85. Wheat and flour comprised the largest share, with more than half shipped to Asia, followed by Africa and a small amount to Lebanon. Chief recipients were Bangladesh and Egypt. Coarse grains and rice were both shipped mainly to Sub-Saharan Africa. More than half of all Australian food aid was shipped multilaterally through the WFP.

Australia has pledged to provide about 80,000 tons of cereal aid to Sub-Saharan Africa for 1986/87 or calendar year 1987, of which 10,000 tons are to be provided through triangular transactions. Ethiopia and Mozambique account for almost two-thirds of the total pledge.

In the July 1986-June 1987 Australian fiscal year, the food aid budget was cut by one-third from the 1985/86 level to approximately A\$80 million (about US\$50 million). This reflects an austere budget designed to cut the overall growth of government spending. Most of the reduction comes from halving the contribution to the WFP. Further, Australia has applied to join the 1986 FAC with the reservation to pledge 300,000 tons of cereal aid. The previous Australian pledge was 400,000 tons.

### **CANADA**

Canada is estimated to have shipped about 830,000 tons of cereal aid in the 1985/86 trade year, down from the recent high of 943,000 in 1984/85. Canada consistently exceeds its minimum pledge of 600,000 tons under the FAC. Wheat and flour comprised almost all the cereals provided, which accounted for about 60 percent of the value of Canadian food aid. Approximately three-quarters of its wheat and flour were shipped to Asia (mainly Bangladesh and China). Most of the corn was shipped to Central America (chiefly Nicaragua). Edible oilseeds, oils, and fats accounted for close to 20 percent of the value of food aid with other commodities and cash contributions accounting for the remainder. About half of Canadian food aid was budgeted for multilateral distribution.

In the April 1986-March 1987 fiscal year, the food aid budget increased about 15 percent to approximately C\$410 million (US\$300 million), due mostly to an increase in bilateral food aid. Decreased funding for Africa was exceeded by increased allocations to Asia and Latin America. The largest increases were for India and Pakistan (including Afghan refugees).

Canada has pledged nearly 175,000 tons of cereal aid to Sub-Saharan Africa, making it the third largest bilateral donor to the region. Ethiopia, Sudan, and Mozambique are the largest recipients of Canadian food aid to the region.

In the current 1987/88 fiscal year, the food aid budget fell less than 3 percent to C\$400 million (about US\$300 million). Multilateral allocations increased 8 percent while bilateral allocations fell by more than 10 percent. Food aid remained constant or fell to most countries except most notably Egypt and Mozambique which received higher allocations than in 1986/87. Top recipients overall are Bangladesh, Egypt, and India.

#### **EUROPEAN COMMUNITY**

The EC is estimated by FAO to have shipped about 1.5 million tons in trade year 1985/86, down from the peak of 2.5 million tons in 1984/85 and below its FAC pledge of close to 1.7 million tons. Wheat and flour comprised almost three-quarters of the cereal aid. Ethiopia, Bangladesh, and Pakistan were the largest wheat and flour recipients. Overall, African countries were the principal recipients of EC cereal aid.

Commodity allocations for the 1987 food aid program of the EC (excluding member countries) are similar to those of 1986. The volume of cereal aid allocations (again, excluding member country allocations) remains unchanged at 1.16 million tons, as are the allocations of milk powder (a maximum of 94,100 tons), and butteroil (a maximum of 27,300 tons). However, vegetable oil allocations almost quadrupled to 34,000 tons and sugar allocations almost tripled to 11,000 tons. The maximum allocation of other commodities was approximately 280,000 tons, compared with about 120,000 tons in the 1986 program. The reserve to cover exceptional food shortages was decreased from about 390,000 tons to 160,000 tons.

EC country allocations are announced during the year. To date, Egypt has been allocated the largest amount of cereal aid. Of the multilateral organizations that distribute EC food aid, the chief recipient of cereals has been the WFP. To Sub-Saharan Africa, the EC has pledged about 675,000 tons of cereal aid for trade year 1986/87 or calendar year 1987. Mozambique is by far the largest recipient, followed by Sudan. About 200,000 tons are to be provided through triangular transactions and local purchases.

The FAO estimates that the EC will ship 1.6 million tons in trade year 1986/87, about 5 percent below its FAC pledge.

#### **JAPAN**

The FAO estimates Japanese cereal aid shipments in trade year 1985/86 to be 374,000 tons, up one-third from 1984/85, but below the 1983/84 level of almost 450,000 tons. Japan purchases from other countries all the commodities it provides as food aid. In 1985/86, Japan purchased about \$56 million tons of rice, wheat, and wheat flour from Burma, Pakistan, Thailand, and the United States. Of that, all the wheat and flour (more than 100,000 tons, grain equivalent, worth almost US\$17 million) were purchased from the United States. Almost all the rice was purchased from Burma and Thailand. In addition, approximately 10,000 tons of corn were purchased from Zimbabwe for distribution in Zambia. Half of the wheat and flour was distributed to Asia, less than 30 percent went to Africa and about 20 percent was shipped to the Middle East. Slightly less than 60 percent of the rice went to Africa and the remainder was shipped to the Asia.

Japan has pledged 52,000 tons of cereal aid to Sub-Saharan Africa for 1986/87 or calendar year 1987. Tanzania, Mozambique, and Zambia account for about 60 percent of those pledges. The FAO estimates that Japan will provide about 300,000 tons of cereal aid in 1986/87.

*Volume of food aid contributions, principal commodities*

Commodity/country 2/	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	Estimated shipments 1/	
								1986/87	1987/88
----- 1,000 metric tons (grain equivalent) 3/ -----									
Grains 4/	8,887	8,942	9,140	9,198	9,831	12,463	10,346	10,117	9,667
Argentina	38	67	20	33	30	51	44	35	35
Australia	315	370	485	349	460	466	350	325	300
Canada	730	600	600	843	817	943	830	900	875
European Community 5/	1,206	1,291	1,602	1,596	1,917	2,504	1,536	1,600	1,600
Finland	19	29	9	28	40	20	5	20	20
Japan	688	914	507	517	445	280	374	300	300
Norway	11	40	36	36	17	43	16	30	30
Sweden	98	94	119	87	83	88	69	80	80
Switzerland	32	16	22	29	30	39	22	27	27
United States	5,339	5,212	5,341	5,375	5,655	7,536	6,675	6,500	6,100
Others	411	309	399	305	337	493	425	300	300
Other commodities 6/	1980	1981	1982	1983	1984	1985	1986	1987	1988
Vegetable oils	262	309	346	342	345	384	513	NA	NA
United States	234	275	300	290	271	310	418	NA	NA
Other	28	34	46	52	74	74	95	NA	NA
Dairy products	296	428	334	320	463	432	436	NA	NA
United States	90	122	129	168	196	273	293	NA	NA
Other	206	306	205	152	267	159	143	NA	NA

NA = Not available.

Sources: Food and Agricultural Organization, U.S. Department of Agriculture, and U.S. Agency for International Development.

1/ Estimates based on minimum contributions under the 1986 Food Aid Convention, budgetary allocations, historical patterns, current food aid policies, and other sources.

2/ July-June trade years.

3/ To express cereal food aid in grain equivalent, wheat, rice and coarse grains are counted on a one-to-one basis; for grain products, appropriate conversion factors are used to determine the grain equivalent.

4/ In addition, unofficial reports indicate that the USSR provided several Asian countries with 200,000 tons each in 1979/80, as emergency aid.

5/ Aid from individual members as well as Community action. Ten member countries, prior to accession of Portugal and Spain.

6/ Calendar years. 1986 data are preliminary.

# ADDITIONAL FOOD NEEDS OF LOW-INCOME COUNTRIES

## *Financial Situation in the Low-Income Countries*

The financial situation of the low-income developing countries covered in this report appears to have worsened in 1986 and, although expected to show some improvement in 1987 and possibly 1988, will remain poor. These countries' financial conditions result from declining or only modestly improved export earnings--brought on by slow growth in the industrial countries and faltering world commodity prices--and rising debt obligations. The resulting higher debt service ratios for these countries indicate little likelihood of improvement in growth performance and consequent restricted ability to purchase U.S. commercial food imports.

These low-income countries export approximately three-quarters of their exports to the industrialized countries. While economic conditions in the major developed country markets show reasonable prospects for stability in 1987 and perhaps 1988, there are indications that the current expansion is waning. With economic growth in the developed countries expected to be about 2-2.5 percent for 1987 and only slightly higher in 1988, the low-income countries will find themselves hard pressed to attain increases in exports that will significantly improve their ability to meet debt obligations or finance economic improvements. This outlook comes on top of a particularly dispiriting 1986, where the available data indicate a second straight year of declining export earnings (down 3-4 percent), in combination with increased debt payments (up a possible 35 percent).

Commodity prices with few exceptions are expected to continue to be depressed, further dampening prospects for significantly improved export earnings. High commodity prices for beverages (caused by a drought-affected coffee crop in Brazil) provided some welcome income to a number of low-income countries such as Colombia, Kenya, and Sri Lanka in 1986, but then retreated to low levels by mid-1987, returning these producers to difficult straits. Metal prices were particularly poor in 1986, but rebounded in the first half of 1987 from the previous year. Not surprisingly, tin-exporting countries (such as Bolivia) showed substantial declines in their 1986 export earnings, but higher 1987 prices could portend some improvement should they hold. African countries (such as Zaire and Zambia) that rely heavily on copper exports similarly may experience somewhat stronger export earnings should prices continue to firm through 1987.

The large and sudden decline in world oil prices--from around \$28 a barrel in 1985 to below \$15 a barrel on average in 1986--was reversed by mid-1987 with prices reaching over \$20, a more stable price considered likely to endure or increase only slowly in the near term. With firmer oil prices, oil exporters covered in this report--such as Indonesia, Ecuador, and Egypt--may find export earnings and financial prospects improved. The counterpart is that the oil-importing developing countries will face the possibility of a more difficult financial position. In the short run, the disruption in the oil-importing countries may be minimized because these countries did not greatly increase their oil imports during the low oil-price period. However, higher oil prices over the longer term are likely to significantly raise overall resource and import costs for low-income oil importers, both directly through higher import bills and indirectly by increasing constraints on growth in their major industrial country markets.

In short, anemic commodity prices and little prospect of robust growth in industrial countries indicate chances are slim for any major improvement in the financial situation in the low-income developing countries through export and reserves growth. Negotiations for lower interest rates, more lenient repayment schedules, debt-for-equity-swaps, or the possibility of more routine debt rescheduling procedures--once the debts of major debtor countries such as Brazil are restructured in 1987--may provide hope for offsetting the current period of lackluster world growth and trade that threaten chances for improved economic health in these low-income countries.

The stock of debt held by these low-income countries continued growing in 1985 (the latest year for which complete data are available), and there is as yet no indication of a reversal of this trend. In fact, growth in the stock of debt held by these countries may well have accelerated in 1986, a movement that could well be repeated in 1987 and 1988. Counteracting this movement was the continued easing of interest rates, with the London Interbank Offer Rate on dollar deposits (LIBOR) falling from a 10.9-percent average in 1984 to 6.9 percent in 1986. But the outlook for 1987 and 1988 indicates that this trend may be reversed, with interest rates gradually creeping upward by 1 percentage point or so. Without debt rescheduling negotiations,

interest rate reductions, or some significant form of debt-for-equity swap, these trends point to upward pressure on debt service burdens and a repeat in 1987 and 1988 of the high debt service ratios seen in 1986. These problems are especially acute for heavy debtors such as those in Latin America.

Barring weather-induced shortfalls (pushing prices higher) or some unanticipated increase in exports in 1987-88, few increases are expected in export earnings of the low-income developing countries. This would apply in particular to Latin American and Sub-Saharan African exporters who rely most heavily on non-oil commodity exports. Low commodity prices will likely bear heavily on many African countries, although dollar debt burdens may be mitigated to the extent that export earnings for these countries are paid in stronger European currencies.

The financial situation for parts of Asia may prove slightly better and more stable than in other developing regions, owing mostly to a higher percentage of manufactured exports such as textiles. Prices for such manufactures remained reasonably stable and held relatively even with prices for imports purchased by Asian developing countries from industrial countries. In contrast, other regions' exports rely less heavily, if at all, on such value-added products. Also, the recent volatility in oil prices makes the financial situation for the oil exporters less secure than for the Asian countries.

Asian exports have also remained broadly competitive to the extent that their currencies have been variously linked to the U.S. dollar. As a consequence, Asian export prices remained in line with dollar prices as the dollar declined during 1985 and 1986, retaining their competitiveness. Furthermore, Asian countries, broadly speaking, have lower debt burdens than countries in other regions, with the exception of the Philippines, which has recently rescheduled its debt.

*Selected financial data for developing countries, 1986 estimates and forecasts for 1987 and 1988*

Region and subregion	Imports				Exports			
	1985	1986	1987	1988	1985	1986	1987	1988
	----- <u>Billion dollars</u> -----				----- <u>Billion dollars</u> -----			
North Africa	21.57	21.50	22.15	22.90	18.33	16.83	17.25	18.25
West Africa	5.72	6.15	6.30	6.50	5.36	5.74	5.77	5.95
Central Africa	2.25	2.27	2.20	2.35	3.17	2.69	2.77	2.84
East Africa	5.50	5.99	6.19	6.42	3.34	3.93	3.65	3.91
Southern Africa	4.20	4.74	5.02	5.29	4.32	4.77	5.12	5.30
Middle East	4.49	4.15	4.14	4.14	3.04	2.38	2.30	2.34
Subtotal	43.73	44.80	45.99	47.59	37.56	36.34	36.85	38.57
South Asia	33.47	34.63	36.89	39.84	24.60	26.90	28.85	31.46
Southeast Asia	22.79	20.62	22.06	24.00	27.26	22.40	26.15	27.25
Subtotal	56.26	55.25	58.95	63.84	51.86	49.30	55.00	58.71
Caribbean	4.13	3.74	3.88	3.99	2.73	2.79	2.90	2.94
Central America	7.16	7.23	7.36	7.45	4.55	4.90	5.08	5.28
South America	15.01	15.31	15.28	14.92	12.61	13.02	12.97	13.14
Subtotal	26.29	26.27	26.52	26.36	19.89	20.71	20.95	21.36
Grand total	126.28	126.32	131.46	137.78	109.30	106.34	112.79	118.63

*Selected financial data for developing countries, 1986 estimates and forecasts for 1987 and 1988, continued*

Region and subregion	Yearend reserves				Debt service			
	1985	1986	1987	1988	1985	1986 <sup>1/</sup>	1987	1988
	----- <u>Billion dollars</u> -----				----- <u>Billion dollars</u> -----			
North Africa	1.14	1.20	1.27	1.26	4.27	5.30	3.98	4.21
West Africa	1.47	1.60	1.54	1.56	0.85	1.90	0.88	0.91
Central Africa	0.24	0.34	0.32	0.32	0.68	1.26	0.44	0.45
East Africa	0.76	1.02	1.02	0.94	0.89	2.21	0.76	0.83
Southern Africa	1.37	1.62	1.53	1.46	0.88	1.49	0.94	0.97
Middle East	1.57	0.98	0.96	0.95	0.29	0.09	0.11	0.12
Subtotal	6.55	6.76	6.65	6.49	7.86	12.24	7.12	7.49
South Asia	8.92	8.72	8.86	9.25	4.45	5.50	6.04	6.44
Southeast Asia	5.61	5.80	6.82	7.72	5.40	7.26	7.78	8.35
Subtotal	14.53	14.52	15.69	16.97	9.85	12.75	13.81	14.79
Caribbean	0.51	0.48	0.46	0.46	0.62	0.50	0.54	0.55
Central America	1.19	1.36	1.38	1.38	1.13	1.32	1.16	1.09
South America	4.34	4.97	4.70	4.35	2.86	3.19	3.07	3.37
Subtotal	6.04	6.81	6.54	6.19	4.61	5.00	4.78	5.01
Grand total	27.13	28.09	28.87	29.65	22.32	30.00	25.71	27.29

<sup>1/</sup> 1986 debt service data do not reflect debt renegotiation, whereas the 1987 and 1988 forecasts assume debt repayment will hold the same relation to export earnings as in 1982-1985.

## **Commercial Capacity To Import Food**

Several alternative methods are available to convert general financial indicators into measures of the low-income countries' capacity to import food. The calculation used in this study is based on estimates of each country's foreign exchange earnings, import bills, foreign exchange reserves and debt service, and historical commercial food import patterns and food import unit values. Estimates of a country's foreign exchange earnings were made on the basis of export trade forecasts and, in selected cases, other sources of earnings such as worker remittances and tourism. The foreign exchange earnings estimate was added to estimates of a country's foreign exchange reserves to arrive at total foreign exchange supplies. The total was then adjusted using historical and estimated import bills to maintain the country's historical reserves-to-imports ratio.

The adjusted foreign exchange availability estimate was reduced further by the country's debt-service obligations to arrive at a net foreign exchange availability. The proportion of this net foreign exchange availability allocated to commercial food imports in the base period was held constant and used to calculate the foreign exchange available in the forecast period for commercial food imports. The volume of imports that could be purchased is estimated using this final estimate of net foreign exchange availability and expected food import unit values.

## **Measures of Additional Food Needs--Conceptual Framework**

The financial indicators noted above and the food data described below are used to generate two alternative measures of food needs in addition to estimated commercial import capacity. Countries must choose between making extraordinary commercial purchases and seeking food aid to fill this gap. However, extraordinarily large commercial imports, particularly in successive years, would be at the cost of other imports, including imports of development goods. In addition, a measure is computed of the maximum quantities of commodities which countries could feasibly import. Each measure highlights a different aspect of the food problem in the low-income countries and a different notion of the role aid might play in easing the problem. For a more detailed discussion, see the section entitled "Methodological Notes."

The first measure, termed "status quo," estimates the additional food needed to maintain per capita use of food staples at levels reported in recent years. Per capita food use is calculated as the mean of the most recent 4 years that do not deviate more than one standard deviation from the mean of the most recent 8 years. This per capita food use is called base-use in the following descriptions of tables and elsewhere in this report. The data years employed in calculations for this report are 1979/80 through 1986/87. No provision is made for improving substandard diets, for reducing allocations to countries where diets are relatively good, or for correcting problems related to the uneven distribution of food across or within countries. Because status quo estimates support a level of per capita availability that has been achieved in the past, in most cases they can be considered to be consistent with the capacity of countries to absorb food imports.

The second measure, termed "nutrition-based," estimates the additional food required to raise per capita caloric intake to the levels associated with FAO's recommended minimum diet. This measure is based on the notion that food aid might be utilized in a way consistent with nutritional need rather than to maintain a recent, possibly substandard, status quo. In this sense, the nutrition-based measure might be viewed as a maximum level of additional food need, but not necessarily consistent with a country's ability to absorb food imports.

The measure of food import feasibility called "maximum absorbable imports" provides one basis for assessing what maximum quantity of additional food might be imported toward meeting large nutrition-based food needs, or possibly for building stocks in a period of ample world food supplies. The implicit assumption is that the food delivery systems of many of the countries involved have been fully "loaded" by past high levels of consumption. In addition, the highest level of stocks maintained over the previous 8 years is assumed, in the absence of better information, to be the largest level that can currently be maintained. The estimate is intended to provide a crude measure of the amount of food that can be physically absorbed. This level may then be used to scale back nutrition-based additional food need estimates that may be beyond the physical limits of a country's transportation, distribution, and storage capabilities.

While the status quo and nutrition-based methods differ in the estimation of requirements, they have a common structure. In each, an estimate of every country's domestic supplies of food staples is subtracted from an estimate of staple food requirements to arrive at a quantity estimate of import requirements. Import requirements are then totaled for food groups, based on assumptions regarding their substitutability. An estimate of a country's capacity to commercially import food in each category is then subtracted from the import requirement to arrive at an estimate of additional food needs. Estimated import unit values for each food group are used to generate import requirements, and additional food needs estimates in both quantity and value terms.

Several factors affecting additional food needs in a country are not addressed in these estimates. First, food distribution problems--both geographical and across income or population groups--are overlooked by the use of national level food availability and country average food requirement measures. These can mask acute shortages in specific places within a country as well as uneven distribution of food across population groups. However, measuring the unevenness of food distribution is extremely difficult, because data are not available. Acute problems of this nature are treated qualitatively in the country narratives.

Second, additional food needs are estimated without reference to a country's food and agriculture policies and current performance. Although these issues figure importantly in a country's choice between exceptional commercial food purchases and requesting concessional food imports, a comprehensive consideration of them is beyond the scope of this report.

## ***Introduction to Regional and Country Narrative Tables***

The following section reports on the food and financial situation and outlook for 69 countries in Africa, the Middle East, Asia, and Latin America. The materials summarize events during the 1986/87 local marketing year (generally July-June) and project food and financial conditions for 1987/88 and 1988/89.

Data shown in the tables must be interpreted with caution. Forecasts of food production, population, and financial conditions for 1987/88 and 1988/89 represent ERS's forecasts of what is likely to happen during those years. But, 1987/88 and 1988/89 estimates of all other items--stocks, use, import requirements, and additional needs--are not forecasts of what is likely to happen; they are estimates derived using the status quo and nutrition assumptions summarized in the previous section, and explained in detail in the "Methodological Notes" section of this report. Additional food needs calculations are also subject to a number of adjustments detailed in the Methodology section.

In each of the regional and country tables, any quantity less than 500 tons and any value less than \$500,000 is shown as zero.

### ***Tables entitled "[Region] basic food data"***

These tables provide major cereal supply and utilization data and population for regions for 1980/81-1986/87 and for forecast years (1987/88-1988/89).

### ***Tables entitled "[Region] cereal use, additional food needs to support consumption, and stock adjustment"***

These tables deal only with 1987/88-1988/89 country estimates aggregated for the regions. The explanation for column headings is the same as for column headings in the country tables, as described below.

### ***Tables Entitled "[Country] basic food data"***

These tables provide food staple supply and utilization data for 1980/81-1986/87 and for forecast years (1987/88 and 1988/89). An explanation of each column heading follows:

1. Actual or forecast production--actual production for the individual staples for 1980/81-1986/87 and forecast production for 1987/88 and 1988/89.
2. Net imports--actual net imports during 1980/81-1986/87. Net import figures for forecast years are not supplied. Instead, estimated import requirements based on status quo and nutrition-based approaches are provided in the next set of tables.

3. Nonfeed use, 1980/81-1986/87.
4. Feed use--actual feed use, 1980/81-1985/86 and targeted feed use for 1987/88 and 1988/89. Targeted feed use is calculated to maintain per capita feed use at base-use levels. The same base-use level of feed use is employed in the status quo and nutrition-based estimates of aid needs.
5. Beginning stocks--actual stocks for 1980/81-1986/87, where reliable stocks data are available. Initial calculations of status quo and nutrition-based import and aid needs are done by maintaining the ending stocks for 1986/87 (beginning stocks 1987/88) constant throughout the forecasting period. Import requirements for building food security stocks are calculated subsequently for the countries for which stock data are available.
6. Per capita total use--actual per capita human consumption and livestock feed use for 1980/81-1986/87.
7. Commodity coverage--the food staples included for each country.
8. Share of diet--each staple's share of total daily caloric intake, and the share of total daily caloric intake covered by the food staples analyzed. Data are drawn from the 1979-81 FAO Food Balance Sheets with adjustments made in some cases for differences in FAO or ERS estimates of feed use or more recent significant changes in a staple's share of the diet.

**Tables Entitled "Import requirements for [Country]"**

These tables deal only with 1987/88 and 1988/89 estimates. An explanation of each column heading follows:

1. Forecast domestic production--data are drawn from the "basic food data" tables.
2. Total use, status quo--total amount of a staple needed to maintain per capita human consumption at the base-use level and feed use at the targeted level.
3. Total use, nutrition-based--the amount of a staple needed to support FAO recommended minimum daily per capita caloric intake levels and targeted feed use.
4. Import requirements, quantity, status quo--the imports of a staple required to maintain per capita consumption, and also to achieve the targeted levels of feed use with no change in stocks, as shown in the basic food data table. These estimates are calculated for each staple by subtracting forecast domestic production from status quo-based total use.

Subtotals for each commodity group are calculated by summing the import requirements for individual commodities. Calculated surpluses (negative import requirements) for individual commodities within groups are subtracted from deficits in other commodities because foods are assumed to be substitutable within groups. Noncereals such as roots and tubers are converted to caloric wheat equivalents before being summed. Negative subtotals are shown as zeros because these calculated surpluses are assumed not to be substitutable elsewhere in the diet.

5. Import requirements, quantity, nutrition-based--the imports of a staple required to support recommended minimum per capita caloric intake, and targeted feed use, as no change in stocks is shown in the basic food data tables. These estimates are calculated by subtracting forecast domestic production from nutrition-based total use. Totals for each commodity group by year are computed as described in (4) above.
6. Import requirements, maximum--the largest quantity that could be managed if countries wished to take the greatest advantage of low grain prices to improve stocks or to improve on the nutritional status of the population.

**Tables Entitled "Financial indicators for [Country], actual and projected"**

These tables give historical data and forecasts for four key financial indicators: year-end international reserves, merchandise exports, merchandise imports, and debt-service obligations. All data are on a calendar year basis and are compiled from a variety of sources, including the World Bank, the International Monetary Fund, Chase Econometrics, country sources, and ERS estimates.

**Tables Entitled "Additional food needs for [Country], with stock adjustment and as constrained by maximum absorbable imports"**

These tables provide calculations of cereal import requirements and food needs in excess of normal commercial imports resulting from consumption requirements and from estimates of cereal stock adjustments required for food security purposes. The estimated stock increment (quantity and value) is added to import requirements and additional food needs to support consumption to arrive at total import requirements and additional food needs. The stock increment is shown only when it results in altered total additional food needs (i.e. when not offset by negative additional food needs for consumption). For a discussion of how stock increment estimates are calculated, see "Methodological Notes".

1. Commercial import capacity--an estimate of the amount of food within each group that a country can afford to import commercially without reducing below historical levels the share of its available foreign exchange used for nonfood imports. Countries are assumed in forecast years to spend the same proportion of available foreign exchange on commercial food imports as in the base period. The measure is sensitive to historical and projected levels of foreign exchange holdings, total merchandise imports and exports, and debt service. The measure is provided in both quantity and value, using the same country-specific estimates of unit import costs as in the import requirements estimate.
2. Additional food needs, quantity--the estimated quantity of additional food needed in each commodity group to support either the status quo or nutrition-based use level and targeted stock and feed use levels. Negative needs are shown as zero.
3. Additional food needs, value--the estimated value of the additional food needed in each commodity group to maintain either status quo consumption or nutrition-based consumption and targeted stock and feed use levels.

# Africa

## North Africa

Petroleum prices and yields for food crops are key factors in determining North Africa's additional food needs in 1987/88. Petroleum is the major export of Egypt and Tunisia, while Morocco's exports are primarily phosphates and agricultural commodities. The rebound in oil prices has contributed to an improvement in the foreign exchange inflow for Egypt and Tunisia. However, Egypt's foreign debt is very large, and the 1987 gains from petroleum exports will be small in comparison.

Favorable weather this year allowed Tunisia's grain yields to revive from unusually low levels last year because of severe drought. While Morocco enjoyed excellent rainfall and bumper harvests last year, this year the situation is very different, with inadequate moisture trimming the wheat harvest by about a third. This will increase Morocco's food import needs, which were met primarily through U.S. commercial credit last year. Egypt's 1987/88 gain in food production is expected to result from higher yields due to greater use of improved varieties and development of new cropland from the desert. Tunisia's grain imports are expected to decline sharply, but larger imports by Egypt and Morocco may push the combined imports for the three countries to 12.7 million tons in 1987/88, up 2 percent from 1986/87.

### North Africa basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----				Thousand	Kilos
<b>Major cereals</b>					
1980/81	12,893	3,336	9,303	69,169	322
1981/82	10,679	3,257	11,091	71,074	311
1982/83	13,734	2,953	9,351	73,508	321
1983/84	12,262	2,435	11,821	75,502	319
1984/85	12,470	2,459	12,770	77,546	324
1985/86	14,481	2,582	11,810	79,674	326
1986/87	15,473	2,865	12,439	81,915	326
1987/88	14,190	4,065		83,918	
1988/89	15,576	4,065		86,078	

The absence of a column entry in any table means such entry is inapplicable.

### North Africa cereal use, additional food needs to support consumption, and stock adjustment

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
<b>Cereal equivalent</b>						
<b>Consumption</b>						
1987/88	26,863	23,590	1,234	192	0	0
1988/89	27,558	24,364	489	73	0	0
<b>Stock adjustment</b>						
1987/88			489	76	0	0
1988/89			69	10	0	0
<b>Total</b>						
1987/88			1,719	267	0	0
1988/89			558	83	0	0

## Egypt

Egypt's status quo grain import requirements for the coming year are expected to remain steady at 9.0 million tons. Status quo additional food needs of 1.2 million tons reflect rising domestic output after years of stagnation and expected improvements in foreign exchange inflow. The shortage of foreign exchange may ease in 1987/88 as petroleum earnings rebound because of higher prices and as a greater share of remittances moves through official banks in response to more realistic exchange rates. Egypt's balance of payments worsened in 1986 as income from petroleum exports, remittances, and tourism declined. Egypt's foreign debt rose to a record \$40 billion in early 1987. Lower petroleum prices and delayed marketing plans caused revenues from exports of petroleum and products to decline from an average \$3 billion in 1983-85 to about half that value in 1986.

Total grain production is expected to rise to 8.6 million tons in 1987/88, up from 8.3 million tons in 1986/87. Further gains in wheat production to over 2.1 million tons are expected in 1987 because of an increase in the area planted in recently developed desert areas and good yields from improved varieties. Greater use of hybrid seed should push corn production to over 4 million tons. Difficulty in expanding the area is likely to prevent further gains for rice output, following substantial gains in 1986 to about 1.7 million tons of milled rice. Intense pressure to increase food production caused a reduction in cotton area to make way for rice, and lower yields caused output to slump 6 percent to 407,000 tons.

In 1986, Egypt's agricultural imports declined to slightly less than \$3.9 billion. Lower world commodity prices reduced Egypt's expenditures for imports of wheat, flour, corn, beef, frozen poultry and some other items. Grain imports were down from 1985, as imports of wheat and flour combined declined from 7.1 million tons to about 6.6 million. This decline was partly offset by the hike in corn imports to 2.1 million tons.

### Egypt basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>						<u>Kilos</u>	<u>Percent</u>	
Major cereals								
1980/81	7,373	2,545	6,267	11,408	2,357	327	Wheat	36.9
1981/82	7,424	2,420	7,294	12,072	2,964	347	Rice	10.0
1982/83	7,714	2,102	7,017	11,857	3,119	332	Corn	16.0
1983/84	7,883	1,857	8,242	12,207	3,684	342	Sorghum	1.1
1984/85	7,788	2,091	9,018	12,684	4,092	351	Barley	0.2
1985/86	7,818	2,121	8,768	12,909	3,838	341	Total	64.2
1986/87	8,270	1,960	9,012	12,958	4,242	340		
1987/88	8,575	2,042						
1988/89	8,905	2,042						

### Import requirements for Egypt

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	8,575	17,597	14,811	9,022	6,236	10,167
1988/89	8,905	18,078	15,227	9,173	6,322	10,335

*Financial indicators for Egypt, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	9,307	9,745	1,411	1,046	7,896	15
1981	10,449	12,054	1,911	716	8,538	21
1982	10,091	12,385	1,905	698	8,187	20
1983	11,250	13,610	1,999	771	9,251	17
1984	12,237	14,451	2,352	736	9,885	20
1985	11,157	13,913	2,556	792	8,601	22
1986	10,000	13,850	3,300	792	6,700	
1987	10,550	14,700	2,078	792	8,450	19
1988	11,300	15,500	2,225	792	9,008	19

*Additional food needs to support consumption for Egypt, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
1987/88	7,792	1,210	1,230	191	0	0
1988/89	8,684	1,290	489	73	0	0
Stock adjustment			489	76	0	0
1987/88			69	10	0	0
Total			1,719	267	0	0
1987/88			558	83	0	0
1988/89						

## **Morocco**

Below average rainfall in all regions will decrease harvests of four major grains to approximately 4 million tons, down from last year's 6.6 million. Some reduction in agricultural exports is expected, but the majority of this production is irrigated and should do fairly well. Some growth in the overall economy should be seen, as other sectors compensate for the decline in agriculture. Economic growth will be well below the projected 3-percent growth in real GDP, however, which assumed favorable rainfall and constant prices. Cereal import requirements for 1987/88 will increase from the previous year, and should be between 2.6 million tons (Moroccan government estimate) and 2.8 million tons (report estimate to maintain status quo consumption). Both wheat and barley stocks at the beginning of 1987/88 are well above the previous year's level. Any minor additional food needs for Morocco should be met by commercial imports and available stocks.

*Morocco basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	Percent
Major cereals								
1980/81	4,354	580	2,220	5,740	778	317	Wheat	42.8
1981/82	2,021	636	2,655	4,122	559	222	Corn	3.5
1982/83	4,764	631	1,470	5,519	898	298	Barley	15.9
1983/84	3,457	448	2,296	4,868	1,075	269	Total	62.2
1984/85	3,658	258	2,652	5,044	1,088	272		
1985/86	4,596	436	2,190	5,282	1,315	285		
1986/87	6,596	625	1,885	5,577	1,645	303		
1987/88	3,985	1,884						
1988/89	5,345	1,884						

*Import requirements for Morocco*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	3,985	6,844	6,711	2,859	2,726	3,701
1988/89	5,345	7,005	7,074	1,660	1,729	2,523

*Financial indicators for Morocco, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						Percent
1980	3,270	3,770	1,193	399	2,077	22
1981	3,084	3,840	1,266	230	1,818	32
1982	2,945	3,815	1,334	218	1,611	26
1983	2,931	3,301	1,120	107	1,811	20
1984	3,292	3,600	1,134	49	2,158	22
1985	3,611	3,700	1,034	115	2,577	13
1986	3,678	3,950	1,462	103	2,216	
1987	3,725	3,850	1,365	120	2,381	18
1988	3,900	3,950	1,429	90	2,459	18

*Additional food needs to support consumption for Morocco, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent Consumption						
1987/88	2,854	330	4	0	0	0
1988/89	3,082	341	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0

## **Tunisia**

Tunisia received excellent winter rains and is expecting a grain harvest this year of 1.6 million tons, more than double that of 1986. Excellent agricultural output and higher net exports of goods and services are expected to promote economic growth in 1987, with real GDP rising 3 to 4 percent. Devaluation of the dinar has stimulated exports. Structural reforms have decreased consumer subsidies, tariffs, and import quotas. Negative effects of structural reforms are high inflation, which is expected to rise an average 8-9 percent in 1987, and unemployment, which will reach 15-18 percent. Status quo import requirements for 1987/88 are 792,000 tons, well within Tunisia's commercial import capacity of 1.1 million tons. Tunisia's per capita wheat consumption is among the highest in the world. Bread continues to be heavily subsidized despite recent price reforms, and status quo levels are far in excess of nutritional needs.

### *Tunisia basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----								Kilos
Major cereals								Percent
1980/81	1,166	211	816	1,590	402	307	Wheat	52.9
1981/82	1,234	201	1,142	1,730	627	354	Barley	1.9
1982/83	1,256	220	864	1,741	469	323	Corn	0.0
1983/84	922	130	1,283	1,699	526	317	Total	54.9
1984/85	1,024	110	1,100	1,707	502	307		
1985/86	2,067	25	852	1,791	873	359		
1986/87	607	280	1,542	1,812	478	302		
1987/88	1,630	139						
1988/89	1,326	139						

### *Import requirements for Tunisia*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	1,630	2,422	2,067	792	437	1,296
1988/89	1,326	2,475	2,063	1,149	737	1,661

*Financial indicators for Tunisia, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	3,296	3,823	431	590	2,866	9
1981	3,616	4,108	517	536	3,099	8
1982	3,208	3,929	483	607	2,725	8
1983	3,097	3,657	560	567	2,537	10
1984	3,343	3,724	682	406	2,661	10
1985	3,563	3,956	677	233	2,886	6
1986	3,150	3,700	534	305	2,616	
1987	2,975	3,600	540	360	2,434	9
1988	3,050	3,450	553	375	2,525	9

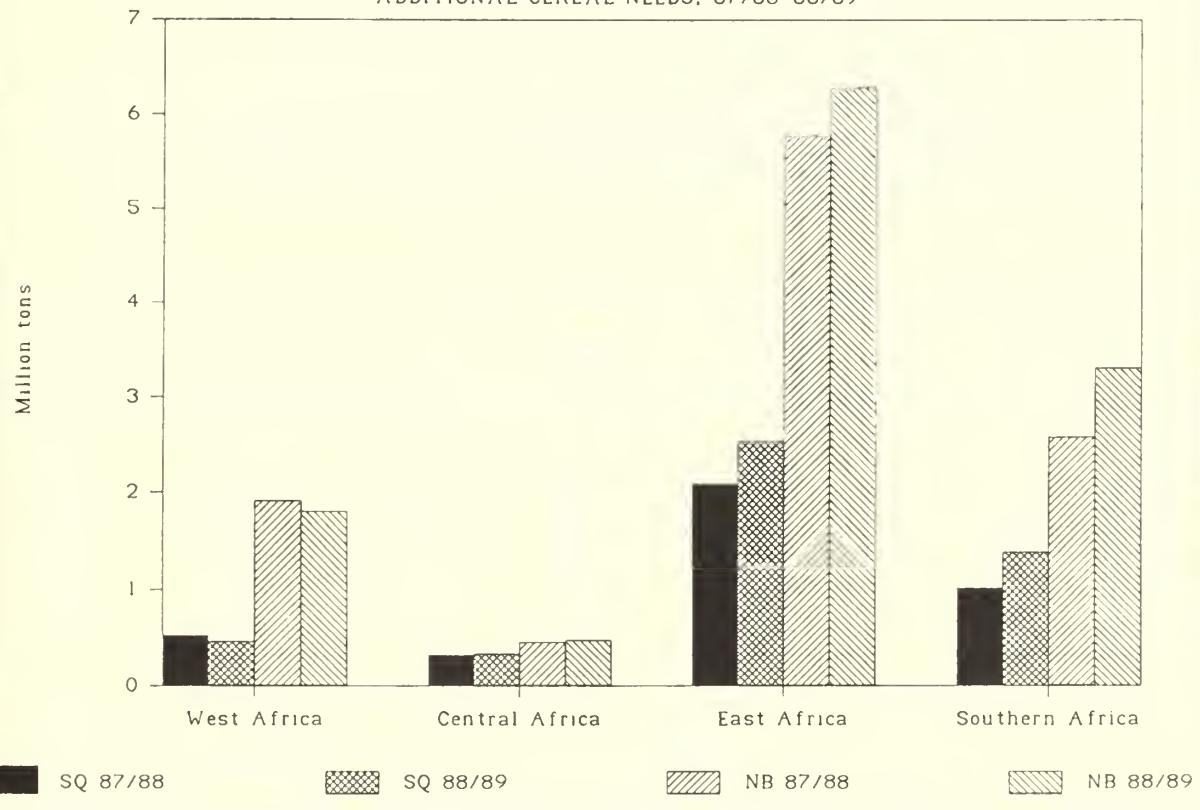
*Additional food needs to support consumption for Tunisia, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	1,135	144	0	0	0	0
1988/89	1,231	149	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0

## *Sub-Saharan Africa*

### SUB-SAHARAN AFRICA

ADDITIONAL CEREAL NEEDS, 87/88-88/89



## West Africa

On the whole, the early season outlook is favorable for West Africa. Rainfall has been near normal along the coast with some dryness in Benin, Ghana, and Togo. Sharp increases in grain output during the last 2 years have built stocks to record levels and held down food prices. Both of these factors are likely to contribute to reduced crop area in 1987. There is some concern about the delayed arrival of the rains in the Sahel, however, where planting began in late June. Adequate precipitation during July-September will be crucial for normal crop development. Most West African countries are entering the 1987/88 season with adequate food supplies. Coarse grain stocks could be drawn down in case of a production shortfall.

While little growth in exports is expected in 1987, low prices will reduce the cost of grain purchases for most countries. In 1987/88, grain import requirements, mostly for wheat and rice, are estimated at 2.4 million tons. Additional cereal needs are estimated at 530,000 tons (including stock adjustment), up slightly from the estimate in the May report. Additional nutrition-based food needs are much higher than status-quo requirements.

### West Africa basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----				Thousand	Kilos
Major cereals					
1980/81	8,106	436	2,081	67,507	152
1981/82	8,676	395	2,099	69,121	153
1982/83	8,240	570	2,229	70,929	149
1983/84	7,571	451	2,755	73,356	140
1984/85	7,343	522	2,611	75,793	134
1985/86	9,978	323	2,042	77,978	147
1986/87	10,385	849	1,965	80,424	154
1987/88	10,098	819		82,783	
1988/89	10,472	819		85,151	

### West Africa cereal use, additional food needs to support consumption, and stock adjustment

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	17,091	18,791	459	80	1,842	331
1988/89	17,589	19,346	449	75	1,789	308
Stock adjustment						
1987/88			79	13	74	12
1988/89			12	2	15	2
Total						
1987/88			530	91	1,916	343
1988/89			461	77	1,804	310
Maximum absorbable						
Cereal equivalent						
1987/88			530	91	1,403	247
1988/89			461	77	1,273	216

## Benin

Early season rains were not favorable for crop development in Benin, and some yield reduction is expected even if precipitation is normal during the rest of the growing season. Food crop prices have remained low since the record harvest of 1985/86, creating a disincentive to producers. Benin does not appear to have the large carryover stocks that are prevalent in other West African countries. One reason may be increased demand for grain in neighboring Nigeria, where most grain imports have been banned.

The economy of Benin, heavily dependent on regional trade and exports of cotton and petroleum, has been severely affected by the region's recession and the fall in world commodity prices. Benin faces a heavy external debt burden. An encouraging aspect of the Beninese economy is the evolution of official policy away from centralized control towards privatization and the encouragement of foreign investment. Benin's commercial import capacity is adequate to cover 1987/88 import requirements.

### Benin basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----						Kilos	Percent	
Major cereals								
1980/81	340	0	89	429	0	124	Wheat	4.1
1981/82	358	0	117	475	0	133	Rice	3.1
1982/83	347	0	86	433	0	118	Corn	22.1
1983/84	348	0	74	423	0	112	Sorghum	4.6
1984/85	472	0	52	524	0	135	Millet	0.5
1985/86	520	0	60	580	0	144	Cassava	21.6
1986/87	494	0	65	559	0	135	Yams	13.9
1987/88	494	0					Total	69.9
1988/89	524	0						
Roots								
1980/81	1,277	0	0	1,277	0	370		
1981/82	1,241	0	0	1,241	0	349		
1982/83	1,282	0	0	1,282	0	350		
1983/84	1,200	0	0	1,200	0	318		
1984/85	1,456	0	0	1,456	0	374		
1985/86	1,557	0	0	1,557	0	388		
1986/87	1,550	0	0	1,550	0	374		
1987/88	1,560	0						
1988/89	1,595	0						

### Import requirements for Benin

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	494	568	573	74	79	123
1988/89	524	587	596	63	72	113
Roots						
1986/87	1,560	1,586	1,638	26	78	283
1987/88	1,595	1,636	1,687	41	92	307
Cereal equivalent						
1986/87	1,107	1,192	1,217	84	110	232
1987/88	1,151	1,230	1,259	79	108	231

*Financial indicators for Benin, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	161	314	9	8	153	12
1981	148	432	17	58	131	16
1982	144	466	15	5	130	19
1983	128	302	24	4	103	14
1984	170	237	38	3	132	11
1985	177	267	22	4	154	8
1986	180	360	121	4	59	
1987	200	370	32	4	167	11
1988	200	375	32	4	167	11

*Additional food needs to support consumption for Benin, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	91	14	0	0	19	3
1988/89	95	14	0	0	13	2
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	19	3
1988/89			0	0	13	2

## *Burkina*

Burkina's 1987 agricultural performance will depend on rainfall during May to September. Output is projected to be lower than the previous year, when a record harvest resulted in a national cereal surplus. Large stocks held by the government and on farms should help reduce 1987/88 import requirements. Burkina has a status quo import requirement of 80,000 tons of wheat and rice. This is unlikely to be offset by the coarse grain surplus because of the limited substitutability of wheat and rice. However, status quo imports of rice and wheat can be made commercially.

*Burkina basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>								<u>Kilos</u>
Major cereals							<u>Percent</u>	
1980/81	1,029	0	65	1,090	4	178	Wheat	1.6
1981/82	1,250	0	87	1,284	3	205	Rice	3.6
1982/83	1,186	50	82	1,266	2	198	Corn	8.1
1983/84	1,091	50	139	1,228	2	187	Millet and sorghum	56.1
1984/85	1,105	50	174	1,277	2	190	Total	69.5
1985/86	1,559	50	70	1,427	2	207		
1986/87	1,879	250	107	1,983	2	280		
1987/88	1,685	250						
1988/89	1,698	250						

*Import requirements for Burkina*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	1,685	1,425	1,611	(260)	(73)	356
1988/89	1,698	1,464	1,654	(234)	(44)	399

*Financial indicators for Burkina, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						<u>Percent</u>
1980	161	368	17	68	144	24
1981	159	348	15	71	144	17
1982	126	360	18	62	109	23
1983	126	262	16	85	110	22
1984	129	258	22	106	108	12
1985	127	264	27	140	101	12
1986	130	275	51	234	79	
1987	130	300	21	300	249	16
1988	130	300	21	325	274	16

*Additional food needs to support consumption for Burkina, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	63	11	0	0	0	0
1988/89	72	12	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0

## **Cameroon**

Excellent crop conditions at the start of the growing season in late March portend good harvests in 1987. Cameroon continues to be close to self-sufficient in coarse grains, but has increasing imports of rice and wheat. Successful development of local rice production pushed domestic rice stocks to 127,000 tons by the end of the 1986 season--about three times the level of imports in recent years. A ban on rice imports is likely to reduce 1987/88 cereal imports. Cameroon's commercial import capacity will enable it to purchase almost all of its food import requirements.

### *Cameroon basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>						<u>Kilos</u>	<u>Percent</u>	
Major cereals								
1980/81	885	0	198	1,061	22	127	Wheat	4.1
1981/82	815	0	147	936	26	109	Rice	2.7
1982/83	913	0	204	1,095	22	124	Corn	10.5
1983/84	824	0	214	1,010	28	113	Millet	14.6
1984/85	685	0	196	849	32	93	Cassava	10.2
1985/86	895	0	260	1,123	32	119	Peanuts	5.7
1986/87	951	0	274	1,197	28	122	Yams/sweet potatoes	5.1
1987/88	1,001	0					Plantains	8.4
1988/89	1,036	0					Total	61.4
Roots								
1980/81	3,518	0	0	3,518	0	411		
1981/82	3,585	0	0	3,585	0	408		
1982/83	2,768	0	0	2,768	0	308		
1983/84	3,022	0	0	3,022	0	328		
1984/85	3,370	0	0	3,370	0	356		
1985/86	3,654	0	0	3,654	0	375		
1986/87	3,710	0	0	3,710	0	371		
1987/88	3,780	0						
1988/89	3,830	0						

*Import requirements for Cameroon*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		<u>1,000 tons</u>				
Major cereals						
1987/88	1,001	1,221	1,200	220	199	301
1988/89	1,036	1,255	1,233	219	197	303
Roots						
1987/88	3,780	3,760	3,508	(20)	(272)	660
1988/89	3,830	3,865	3,587	35	(243)	733
Cereal equivalent						
1987/88	2,415	2,630	2,629	215	214	482
1988/89	2,473	2,703	2,697	230	224	505

*Financial indicators for Cameroon, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		<u>Million dollars</u>				
					<u>Percent</u>	
1980	1,646	1,608	186	189	1,460	3
1981	1,407	1,368	206	85	1,201	3
1982	1,348	1,220	269	67	1,079	3
1983	1,364	1,223	204	159	1,160	4
1984	1,589	1,065	222	54	1,368	3
1985	1,600	1,342	238	132	1,362	3
1986	1,635	1,353	540	59	1,095	
1987	1,650	1,370	263	40	1,316	3
1988	1,670	1,400	266	40	1,330	3

*Additional food needs to support consumption for Cameroon, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	191	29	24	4	23	3
1988/89	202	29	29	4	22	3
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			24	4	23	3
1988/89			29	4	22	3

## Cape Verde

Because Cape Verde depends on imports to meet 95 percent of its cereal consumption in a normal year, its agricultural performance has only a marginal impact on its food import requirements. The 1987 harvest, which will depend on rainfall in September and October, is projected to decline slightly from last year's excellent harvest. At the beginning of 1987, Cape Verde held 24,000 tons of cereal stocks. The target stock level to assure food security is considered to be 18,000 tons. Some stock drawdown could reduce 1987/88 status quo import requirements.

### Cape Verde basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>						<u>Kilos</u>	<u>Percent</u>	
<b>Major cereals</b>								
1980/81	9	0	59	68	0	237	Wheat	9.3
1981/82	3	0	61	64	0	219	Rice	9.3
1982/83	4	0	71	75	0	253	Corn	39.3
1983/84	3	0	71	74	0	245	Pulses	4.8
1984/85	3	0	85	88	0	289	Total	62.7
1985/86	1	0	85	86	0	276		
1986/87	12	0	59	71	0	223		
1987/88	6	0						
1988/89	6	0						
<b>Pulses</b>								
1980/81	2	0	0	2	0	7		
1981/82	3	0	0	3	0	10		
1982/83	4	0	0	4	0	13		
1983/84	5	0	0	5	0	17		
1984/85	5	0	2	7	0	23		
1985/86	2	0	2	4	0	13		
1986/87	6	0	0	6	0	19		
1987/88	5	0						
1988/89	5	0						

### Import requirements for Cape Verde

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	6	79	52	73	46	87
1988/89	6	81	53	75	47	90
<b>Pulses</b>						
1987/88	5	4	4	(1)	(1)	2
1988/89	5	4	5	(1)	(0)	3

*Financial indicators for Cape Verde, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- <u>Million dollars</u> -----						
1980	54	82	0	25	54	19
1981	46	96	0	39	46	12
1982	59	105	2	43	57	7
1983	56	82	3	47	53	8
1984	52	93	5	43	46	8
1985	55	85	5	49	50	9
1986	55	85	7	40	48	
1987	56	85	4	40	48	8
1988	56	88	4	40	46	8

*Additional food needs to support consumption for Cape Verde, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	3	0	60	6	33	3
1988/89	3	0	62	6	34	3
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			60	6	33	3
1988/89			62	6	34	3
Pulses						
1987/88	3	1	0	0	0	0
1988/89	3	1	0	0	0	0
Total						
1987/88		1		6		3
1988/89		1		6		3

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## *Chad*

May rains favored grain planting in Southern Chad, but precipitation was less widespread than at the same time last year. Planting in other regions began at the end of June. Egg pod surveys suggest that locust infestations could be more extensive than in 1986, if the rains approach last year's level. Chad's financial position remains precarious with declining exports and international reserves. Commercial import capacity is estimated at only 3,000 tons. Chad's cotton sector is facing a financial crisis and is losing money on cotton exports, the country's main source of foreign exchange.

Chad has stocks of sorghum and millet remaining from the 1986/87 season. The government has requested donor assistance with the purchase of 30,000 tons of surplus grain in the south for distribution in deficit northern areas. In recent years, most wheat and rice has been imported on concessional terms.

*Chad basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							<u>Kilos</u>	<u>Percent</u>
Major cereals								
1980/81	647	0	32	679	0	153	Wheat	1.4
1981/82	548	0	62	610	0	134	Rice	3.8
1982/83	466	0	53	519	0	109	Corn	1.1
1983/84	490	0	89	529	0	107	Millet	47.8
1984/85	300	50	141	476	0	94	Cassava	6.9
1985/86	682	15	65	697	0	138	Total	61.0
1986/87	696	65	55	751	0	144		
1987/88	650	65						
1988/89	652	65						
Roots								
1980/81	185	0	0	185	0	42		
1981/82	191	0	0	191	0	42		
1982/83	197	0	0	197	0	41		
1983/84	200	0	0	200	0	41		
1984/85	170	0	0	170	0	34		
1985/86	200	0	0	200	0	40		
1986/87	205	0	0	205	0	39		
1987/88	205	0						
1988/89	210	0						

*Import requirements for Chad*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	650	676	937	26	287	181
1988/89	652	693	959	41	307	200
Roots						
1987/88	205	218	319	13	114	24
1988/89	210	224	327	14	117	24
Cereal equivalent						
1987/88	732	764	1,066	32	333	190
1988/89	736	783	1,091	47	354	209

*Financial indicators for Chad, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						
1980	71	55	2	5	69	4
1981	83	81	3	7	80	9
1982	58	82	0	12	58	6
1983	78	99	1	28	78	3
1984	110	128	3	44	107	1
1985	88	166	8	33	80	8
1986	96	210	10	16	87	
1987	90	200	3	16	63	4
1988	95	210	3	16	66	4

*Additional food needs to support consumption for Chad, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent						
Consumption						
1987/88	3	1	29	5	330	59
1988/89	3	1	44	7	351	60
Stock adjustment						
1987/88			(5)	(1)	(5)	(1)
1988/89			2	0	2	0
Total						
1987/88			23	4	325	58
1988/89			45	8	353	60
Maximum absorbable						
Cereal equivalent						
1987/88			23	4	181	32
1988/89			45	8	207	35

## *Gambia*

The 1987 harvest, which will depend on rainfall from May/June to September, is projected to remain about the same as in 1985 and 1986. Gambia is close to self-sufficient in coarse grains. Cereal imports, composed almost entirely of rice and wheat, are an important component of Gambia's food supply. During 1981-86, these imports accounted for over 40 percent of annual cereal consumption.

Assuming a good harvest in 1987, Gambia's 1987/88 status quo import requirements are projected to decline from the 1981-86 average. Limited substitutability between imported rice and wheat, and surplus coarse grains could push cereal imports higher than projected, however. Gambia should be able to commercially finance its status quo import requirements.

### *Gambia basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----						Kilos	Percent	
Major cereals								
1980/81	62	0	49	111	0	176	Wheat	6.5
1981/82	80	0	36	116	0	178	Rice	28.5
1982/83	92	0	45	137	0	203	Corn	5.1
1983/84	58	0	63	121	0	173	Sorghum	2.6
1984/85	77	0	83	160	0	220	Millet	14.8
1985/86	107	0	60	167	0	222	Total	57.5
1986/87	103	0	60	163	0	211		
1987/88	106	0						
1988/89	112	0						

*Import requirements for Gambia*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- <u>1,000 tons</u> -----						
Major cereals						
1987/88	106	152	144	46	38	71
1988/89	112	156	148	44	36	70

*Financial indicators for Gambia, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- <u>Million dollars</u> -----						Percent
1980	49	140	1	6	48	14
1981	84	123	3	4	82	8
1982	74	95	11	8	64	16
1983	83	87	7	3	76	12
1984	88	99	7	2	81	13
1985	63	76	8	2	55	25
1986	68	100	19	14	49	
1987	70	105	8	14	70	17
1988	70	105	8	12	68	17

*Additional food needs to support consumption for Gambia, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	53	9	0	0	0	0
1988/89	54	9	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0

## Ghana

The growing season began normally in Ghana. During March and April, rains were favorable in all areas except the Upper East Region. Pockets of dryness were reported along the borders with Cote d'Ivoire (Ivory Coast) and Togo in June. Planting of corn, rice, cassava, yams and cocoyams started on time. Agricultural production was expected to decline in 1986 because of late rains, low prices, and reduced supplies of fertilizer and other inputs. However, government statistics indicate increases for most crops, especially sorghum and millet. Agricultural commodity prices remained low throughout 1986/87 and probably caused some reduction in area planted for 1987/88.

Ghana's economic reform program began to show results in recent years. Cocoa production has increased for 4 years due to price and other incentives. Real GDP has grown over 6 percent a year during 1984-86 and is expected to increase further in 1987. Both exports and imports were up sharply in 1986, an indication of economic recovery. International reserves at the end of 1986 were higher than in previous years. Ghana's commercial import capacity is adequate to cover its import requirements.

### Ghana basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	
<b>Major cereals</b>							Percent	
1980/81	648	0	259	837	70	84	Wheat	4.7
1981/82	693	0	201	824	70	81	Rice	4.0
1982/83	532	0	213	675	70	67	Corn	15.4
1983/84	422	0	251	623	50	56	Sorghum	4.7
1984/85	890	0	180	990	60	83	Millet	4.0
1985/86	568	20	135	643	70	55	Cassava	23.5
1986/87	878	10	110	907	81	73	Cocoyams	6.4
1987/88	800	10					Plantains	8.0
1988/89	845	10					Total	70.7
<b>Roots</b>								
1980/81	3,699	0	0	3,699	0	341		
1981/82	3,525	0	0	3,525	0	321		
1982/83	3,843	0	0	3,843	0	343		
1983/84	2,773	0	0	2,773	0	232		
1984/85	5,463	0	0	5,463	0	433		
1985/86	3,749	0	0	3,749	0	288		
1986/87	4,530	0	0	4,530	0	334		
1987/88	4,625	0						
1988/89	4,755	0						

### Import requirements for Ghana

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
<b>Major cereals</b>						
1987/88	800	1,062	1,345	262	545	459
1988/89	845	1,093	1,388	248	543	451
<b>Roots</b>						
1987/88	4,625	4,672	4,895	47	270	1,419
1988/89	4,755	4,809	5,039	54	284	1,467
<b>Cereal equivalent</b>						
1987/88	2,578	2,852	3,197	274	620	963
1988/89	2,674	2,936	3,295	262	622	971

*Financial indicators for Ghana, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	1,104	908	94	180	1,010	5
1981	711	954	53	146	657	9
1982	607	589	62	139	545	10
1983	439	500	100	145	339	21
1984	566	533	83	302	483	8
1985	632	669	82	479	551	7
1986	773	713	99	513	675	
1987	764	803	115	450	620	12
1988	775	825	117	450	616	12

*Additional food needs to support consumption for Ghana, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>Cereal equivalent Consumption</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
1987/88	407	65	0	0	213	34
1988/89	423	65	0	0	199	30
<u>Stock adjustment</u>			0	0	0	0
1987/88			0	0	0	0
1988/89			0	0	0	0
<u>Total</u>			0	0	213	34
1987/88			0	0	199	31
1988/89						

## **Guinea**

The rainy season began erratically in Guinea and cumulative precipitation at the end of May was less than at the same time last year. Even if rice output is near last year's 306,000 tons, import requirements are estimated at almost 100,000 tons. The remaining grain import requirement is for wheat. Low stock levels indicate that any production shortfall would have to be met by increased imports.

Guinea's economy remains weak, but the Government has undertaken a donor-supported recovery program that is planned to achieve sustained growth by the 1990's. In addition, donors are providing balance of payments support to help offset the decline in bauxite prices. Bauxite provides more than 80 percent of export earnings.

### Guinea basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			----- 1,000 tons -----			Kilos		Percent
Major cereals								
1980/81	358	42	131	481	0	101	Wheat	2.8
1981/82	342	50	99	456	0	94	Rice	30.9
1982/83	384	35	112	496	0	100	Corn	3.4
1983/84	372	35	188	565	0	112	Millet	3.7
1984/85	382	30	137	514	0	97	Cassava	16.0
1985/86	407	35	166	573	0	102	Total	56.8
1986/87	441	35	160	601	0	105		
1987/88	437	35						
1988/89	455	35						
Roots								
1980/81	480	0	0	480	0	101		
1981/82	485	0	0	485	0	100		
1982/83	490	0	0	490	0	99		
1983/84	494	0	0	494	0	98		
1984/85	496	0	0	496	0	94		
1985/86	500	0	0	500	0	89		
1985/86	520	0	0	520	0	91		
1987/88	535	0						
1988/89	550	0						

### Import requirements for Guinea

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		----- 1,000 tons -----				
Major cereals						
1987/88	437	594	674	157	237	235
1988/89	455	609	692	154	237	233
Roots						
1987/88	535	547	782	12	247	62
1988/89	550	561	801	11	251	62
Cereal equivalent						
1987/88	652	814	988	162	336	250
1988/89	676	835	1,014	158	338	248

### Financial indicators for Guinea, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		----- Million dollars -----			Percent	
1980	495	394	96	67	399	11
1981	493	426	83	68	410	8
1982	444	378	78	108	366	3
1983	502	366	68	115	434	6
1984	510	407	116	95	394	6
1985	516	378	66	95	450	4
1986	507	359	155	95	352	
1987	525	375	87	95	434	5
1988	550	400	91	95	448	5

*Additional food needs to support consumption for Guinea, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent Consumption						
1987/88	112	19	50	8	224	38
1988/89	121	20	37	6	217	35
Stock adjustment						
1987/88			9	1	9	1
1988/89			1	0	1	0
Total						
1987/88			58	10	233	39
1988/89			38	6	218	35
Maximum absorbable						
Cereal equivalent						
1987/88			58	10	146	25
1988/89			38	6	128	21

## Guinea-Bissau

A normal harvest is forecast for Guinea-Bissau. The onset of the rains was delayed, but precipitation was adequate for planting in May. Rainfall will need to continue through September to ensure a normal harvest. In spite of good harvests in recent years, stocks have not been built up. Any production shortfall would be translated into higher import requirements.

While Guinea-Bissau's financial position remains weak, import capacity is adequate to cover requirements. Given debt service and other demands on the country's limited foreign exchange earnings, actual commercial imports are likely to be lower than forecast.

### Guinea-Bissau basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----						Kilos	Percent	
Major cereals								
1980/81	57	0	41	88	0	113	Rice	38.1
1981/82	98	10	22	120	0	150	Corn	7.2
1982/83	113	10	27	142	0	175	Millet and sorghum	3.2
1983/84	103	8	16	124	0	150	Total roots	8.3
1984/85	128	3	26	157	0	187	Total	56.8
1985/86	146	0	25	171	0	199		
1986/87	139	0	25	164	0	187		
1987/88	142	0						
1988/89	149	0						
Roots								
1980/81	40	0	0	40	0	51		
1981/82	40	0	0	40	0	50		
1982/83	40	0	0	40	0	49		
1983/84	35	0	0	35	0	42		
1984/85	40	0	0	40	0	48		
1985/86	45	0	0	45	0	52		
1986/87	40	0	0	40	0	46		
1987/88	40	0						
1988/89	42	0						

*Import requirements for Guinea-Bissau*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		<u>1,000 tons</u>				
Major cereals						
1987/88	142	156	146	14	4	46
1988/89	149	159	150	10	1	42
Roots						
1987/88	40	41	50	1	10	7
1988/89	42	42	51	0	9	6
Cereal equivalent						
1987/88	157	172	166	14	8	48
1988/89	165	175	170	10	5	45

*Financial indicators for Guinea-Bissau, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		<u>Million dollars</u>				
						<u>Percent</u>
1980	11	55	4	12	7	8
1981	14	52	4	15	10	69
1982	12	69	2	8	10	16
1983	9	58	3	4	6	53
1984	17	60	5	4	12	6
1985	12	60	10	4	1	145
1986	10	58	16	3	(6)	
1987	14	55	6	3	8	68
1988	15	55	7	3	8	68

*Additional food needs to support consumption for Guinea-Bissau, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	19	4	0	0	0	0
1988/89	21	4	0	0	0	0
Stock adjustment						
1987/88			6	1	0	0
1988/89			0	0	0	0
Total						
1987/88			1	0	0	0
1988/89			0	0	0	0

Cereal equivalent consumption needs and stock adjustments do not add to the total because negative additional food needs are shown as zero.

## Liberia

Good weather in coastal West Africa early in the 1987 growing season is expected to result in an average crop of rice, the leading cereal produced and consumed in Liberia. However, steady growth in domestic output has not appreciably dampened growth in rice imports, which are mostly consumed in urban areas.

Status quo rice import requirements in 1987/88 are projected to increase slightly above actual cereal imports in 1986/87. Liberia's weak economy and foreign exchange crisis have reduced its ability to commercially finance food import requirements. Our estimate of commercial import capacity, which is based on historic patterns of foreign exchange expenditures, may overestimate Liberia's import capacity during this critical period.

### Liberia basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	
Major cereals							<u>Percent</u>	
1980/81	159	24	114	276	0	146	Wheat	2.9
1981/82	165	21	116	282	0	144	Rice	44.5
1982/83	160	20	107	269	0	133	Cassava	20.5
1983/84	172	18	104	235	0	113	Total	67.9
1984/85	177	59	97	313	0	145		
1985/86	173	20	113	276	0	124		
1986/87	177	30	110	287	0	124		
1987/88	185	30						
1988/89	190	30						
Roots								
1980/81	188	0	0	188	0	99		
1981/82	200	0	0	200	0	102		
1982/83	176	0	0	176	0	87		
1983/84	185	0	0	185	0	88		
1984/85	190	0	0	190	0	88		
1985/86	200	0	0	200	0	90		
1986/87	210	0	0	210	0	91		
1987/88	216	0						
1988/89	218	0						

### Import requirements for Liberia

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	185	313	284	128	99	191
1988/89	190	324	293	134	103	198
Roots						
1987/88	216	212	402	(4)	186	27
1988/89	218	219	415	1	197	33
Cereal equivalent						
1987/88	260	387	424	127	163	198
1988/89	266	400	438	134	172	207

*Financial indicators for Liberia, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	600	478	39	6	561	8
1981	509	473	27	8	482	10
1982	453	421	34	6	419	6
1983	433	413	31	20	402	9
1984	435	319	42	3	392	10
1985	420	285	18	2	402	11
1986	400	280	125	3	275	
1987	400	280	29	1	366	10
1988	400	280	29	1	366	10

*Additional food needs to support consumption for Liberia, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	86	30	41	14	77	27
1988/89	90	30	44	15	82	27
Stock adjustment						
1987/88			2	1	2	1
1988/89			1	0	1	0
Total						
1987/88			43	15	79	28
1988/89			45	15	83	28

## ***Mali***

Following a record harvest in 1986, Mali's grain production is forecast to decline slightly in 1987. Prices have fallen significantly during the past 2 years, and farmers are likely to reduce area planted. Carryover stocks are also high. Mali's wheat import requirements are estimated at about 65,000 tons, near the average of recent years. While rice import requirements are 77,000 tons, the Government has restricted imports since late 1986. As long as rice stocks are available within the country, the ban is not likely to be lifted. Mali's financial picture has improved in recent months as world cotton prices have increased. However, livestock exports are expected to remain depressed as herds are rebuilt following high slaughter rates during the drought years. Higher cattle prices will partially offset lower volumes. Mali's commercial import capacity is adequate for 1987/88 grain import requirements.

Rainfall during July-September will be crucial to crop development. The rainy season began somewhat later than normal, but moisture was adequate for planting at the end of June. Stocks could be drawn down to partially meet a production shortfall.

*Mali basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----								Kilos
Major cereals								Percent
1980/81	838	100	98	1,036	0	150	Wheat	1.6
1981/82	1,059	0	145	1,154	0	163	Rice	11.1
1982/83	975	50	178	1,178	0	163	Corn	4.6
1983/84	832	25	380	1,152	0	156	Millet and sorghum	53.0
1984/85	664	85	283	962	0	127	Total	70.4
1985/86	1,125	70	145	1,235	0	160		
1986/87	1,151	105	85	1,236	0	156		
1987/88	1,112	105						
1988/89	1,172	105						

*Import requirements for Mali*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	1,112	1,282	1,696	170	584	301
1988/89	1,172	1,312	1,741	140	569	273

*Financial indicators for Mali, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						Percent
1980	205	308	10	15	195	21
1981	154	269	10	17	145	22
1982	145	234	9	17	136	30
1983	165	246	14	16	151	32
1984	194	256	20	27	174	30
1985	181	294	38	23	144	9
1986	191	304	60	23	131	
1987	190	300	22	15	159	24
1988	195	310	22	15	163	24

*Additional food needs to support consumption for Mali, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	174	34	0	0	410	80
1988/89	186	35	0	0	383	72
Stock adjustment						
1987/88			4	1	4	1
1988/89			0	0	3	0
Total						
1987/88			0	0	414	81
1988/89			0	0	385	72
Maximum absorbable						
Cereal equivalent						
1987/88			0	0	131	26
1988/89			0	0	90	17

Cereal equivalent consumption needs and stock adjustments do not add to the total because negative additional food needs are shown as zero.

## ***Mauritania***

The 1987 harvest, which will depend on rainfall from May/June to September, is projected to decline to 40,000 tons (the 1981-85 average), following the excellent harvest in 1986.

Cereal stocks are not included in Mauritania's food needs calculations because of the lack of historical stock data. High stocks of 155,000 tons in 1986/87 will permit drawdowns during 1987 to about 55,000 tons—the stock level considered adequate to maintain food security. This should reduce Mauritania's 1987/88 status quo import requirements below our estimate.

Mauritania is estimated to have the financial capacity to commercially import 124,000 tons. In recent years, however, this resource-poor country has commercially imported only about 80,000 to 90,000 tons of cereal annually, relying on concessional financing for about two-thirds of its average annual import requirements.

### *Mauritania basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----						Kilos	Percent	
Major cereals								
1980/81	46	0	158	204	0	136	Wheat	16.0
1981/82	77	0	185	262	0	171	Rice	14.1
1982/83	18	0	273	291	0	186	Corn	1.2
1983/84	28	0	301	329	0	207	Millet	17.0
1984/85	16	0	257	273	0	168	Total	48.2
1985/86	52	0	160	212	0	128		
1986/87	118	0	155	273	0	161		
1987/88	40	0						
1988/89	45	0						

*Import requirements for Mauritania*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- <u>1,000 tons</u> -----						
Major cereals						
1987/88	40	297	273	257	233	317
1988/89	45	303	279	258	234	320

*Financial indicators for Mauritania, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- <u>Million dollars</u> -----						<u>Percent</u>
1980	196	321	30	140	166	18
1981	270	386	54	162	216	19
1982	240	427	40	139	200	33
1983	315	378	37	106	278	15
1984	294	302	42	78	252	16
1985	372	334	78	59	294	14
1986	360	350	198	48	162	
1987	380	375	61	50	289	15
1988	400	400	64	50	301	15

*Additional food needs to support consumption for Mauritania, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent Consumption						
1987/88	124	19	133	21	109	17
1988/89	134	20	124	19	100	15
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			133	21	109	17
1988/89			124	19	100	15

**Niger**

Niger's grain production, mostly sorghum and millet, is forecast at 1.9 million tons, up slightly from last year. This estimate is very tentative given that the rainy season and planting in Niger began at the end of June. Rainfall during July-September will be crucial for crop development. While a production shortfall would cause serious problems in Niger, stock levels are high and could be used to partially fill a deficit. Niger's import requirements are estimated at 80,000 tons, compared with actual imports of 40-50,000 during previous years.

The outlook for Niger's economy is not favorable. Slack demand for uranium will hold down the country's foreign exchange earnings, while imports and debt service remain high. Niger's international reserve position improved in 1986, but its commercial import capacity remains low. Because the country is close to self-sufficient in grains in most years, the share of foreign exchange allocated to food imports is very low.

*Niger basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>								<u>Kilos</u>
Major cereals							<u>Percent</u>	
1980/81	1,754	120	144	1,779	0	323	Wheat	1.8
1981/82	1,664	239	113	1,786	0	314	Rice	4.3
1982/83	1,680	230	67	1,787	0	305	Millet and sorghum	61.7
1983/84	1,719	190	40	1,759	0	289	Total	67.8
1984/85	1,056	190	182	1,403	0	224		
1985/86	1,819	25	45	1,739	0	268		
1986/87	1,838	150	45	1,833	0	273		
1987/88	1,892	200						
1988/89	1,944	200						

*Import requirements for Niger*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	1,892	1,972	2,196	80	304	390
1988/89	1,944	2,041	2,268	97	324	416

*Financial indicators for Niger, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						<u>Percent</u>
1980	576	677	39	126	537	7
1981	485	592	63	105	422	17
1982	381	515	111	30	270	9
1983	371	383	73	53	298	6
1984	304	279	67	89	237	6
1985	251	309	67	136	184	2
1986	300	350	91	189	210	
1987	300	350	73	189	292	5
1988	310	360	76	189	296	5

*Additional food needs to support consumption for Niger, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent						
Consumption						
1987/88	37	6	43	7	267	41
1988/89	39	6	57	8	285	42
Stock adjustment						
1987/88			32	5	32	5
1988/89			8	1	8	1
Total						
1987/88			75	11	299	46
1988/89			66	10	293	43

## *Senegal*

A normal 1987/88 grain harvest is forecast in Senegal--near last year's level. Planting began at the end of June with the onset of the rainy season. Both prices and weather will be important factors in the size of the October-December harvest. Despite the late arrival of the rains, last year's crops were near average largely because grain marketing was liberalized. Higher producer prices for peanuts significantly increased the share of the crop sold through official channels.

Imported grain will continue to make up a large share of Senegal's total supply. Imports, mostly rice and wheat, contribute about a third of total use. Senegal's rice and wheat imports are forecast at 418,000 tons and 144,000 tons for 1987/88. The country's commercial import capacity is high, and covers all but 5,000 tons of import requirements.

Senegal's financial picture has deteriorated during the last year as prices for its main export commodities have fallen. Larger exports of peanut oil and meal have been offset by declining world prices. The good peanut harvests, ironically will result in a financial loss for the sector. A \$30-million surplus in 1984-85 turned into a \$35-million deficit in 1986/87. The deficit may worsen in 1987/88 unless the dollar or the world peanut prices recover. Although the deficit could also be reduced by lowering the government-guaranteed purchase price, such action is not likely.

### *Senegal basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----						Kilos	Percent	
Major cereals								
1980/81	645	150	494	1,214	0	211	Wheat	6.3
1981/82	884	75	497	1,281	0	215	Rice	26.6
1982/83	730	175	558	1,338	0	218	Corn	4.3
1983/84	485	125	686	1,240	0	196	Millet	25.8
1984/85	660	55	537	1,164	0	178	Total	62.9
1985/86	1,195	88	468	1,547	0	229		
1986/87	837	204	480	1,397	0	200		
1987/88	830	124						
1988/89	890	124						

*Import requirements for Senegal*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	830	1,496	1,506	666	676	902
1988/89	890	1,546	1,562	656	672	897

*Financial indicators for Senegal, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						Percent
1980	481	973	179	8	302	44
1981	511	1,009	90	9	422	33
1982	590	968	46	11	543	23
1983	569	880	57	12	512	27
1984	548	805	84	4	464	34
1985	481	790	89	5	392	28
1986	656	862	248	9	408	
1987	600	850	77	9	524	29
1988	650	875	84	9	568	29

*Additional food needs to support consumption for Senegal, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	661	98	5	1	15	2
1988/89	748	106	0	0	0	0
Stock adjustment						
1987/88			33	5	33	5
1988/89			0	0	0	0
Total						
1987/88			37	6	47	7
1988/89			0	0	0	0

**Sierra Leone**

Rice output in Sierra Leone is forecast to be slightly above the base period average of 338,000 tons. The start of the rains was delayed, but April and May rains were above normal favoring planting and early development of the rice crop. Rainfall during July-September will be important in determining the size of the harvest. Wheat imports are estimated at 35,000 tons, while rice purchases could reach 75,000 tons, significantly above the base period average of 43,000 tons. Sierra Leone's commercial import capacity is estimated at 76,000 tons leaving additional food needs of over 50,000 tons.

While the short-term economic outlook is not favorable, the Government has undertaken measures that are aimed at an economic growth rate of 3 percent annually, a sharp deceleration in the inflation rate, and a substantial reduction in the balance of payments deficit. Steps announced in June 1986 included the float of the Leone, elimination of consumer subsidies, liberalization of imports, and increases in producer prices. The immediate consequence of the float has been a drop in the value of the Leone from LE6=\$1 in March 1986 to LE50=\$1 in March 1987. This has led to a rapid inflation of consumer prices.

*Sierra Leone basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>						<u>Kilos</u>	<u>Percent</u>	
Major cereals								
1980/81	343	0	86	429	0	125	Wheat	2.8
1981/82	361	0	126	487	0	139	Rice	47.5
1982/83	341	0	57	398	0	111	Cassava	4.2
1983/84	341	0	60	401	0	109	Total	54.5
1984/85	299	0	81	380	0	100		
1985/86	328	0	90	418	0	108		
1986/87	309	0	80	389	0	98		
1987/88	350	0						
1988/89	375	0						
Roots								
1980/81	630	0	0	630	0	184		
1981/82	635	0	0	635	0	181		
1982/83	640	0	0	640	0	178		
1983/84	640	0	0	640	0	174		
1984/85	640	0	0	640	0	169		
1985/86	650	0	0	650	0	167		
1986/87	660	0	0	660	0	166		
1987/88	685	0						
1988/89	700	0						

*Import requirements for Sierra Leone*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	350	463	479	113	129	219
1988/89	375	476	494	101	119	209
Roots						
1987/88	685	720	712	35	27	88
1988/89	700	739	731	39	31	94
Cereal equivalent						
1987/88	629	757	769	128	140	242
1988/89	661	777	792	117	132	234

*Financial indicators for Sierra Leone, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						
1980	214	386	40	31	173	17
1981	153	282	43	16	109	29
1982	110	260	11	8	99	34
1983	107	133	10	16	97	30
1984	133	150	19	8	114	8
1985	137	147	10	11	127	15
1986	100	120	29	13	71	
1987	120	130	12	13	109	17
1988	130	140	13	13	118	17

*Additional food needs to support consumption for Sierra Leone, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>Cereal equivalent</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Consumption						
1987/88	76	15	52	10	64	13
1988/89	85	16	32	6	47	9
<u>Stock adjustment</u>						
1987/88			0	0	0	0
1988/89			0	0	0	0
<u>Total</u>						
1987/88			52	10	64	13
1988/89			32	6	47	9

## *Togo*

Grain output is expected to increase only marginally in 1987/88. Declining prices since the record 1984 harvest have led farmers to reduce the area planted. A small increase in 1987 plantings is likely to be offset by lower yields. April-June precipitation has been inadequate over much of the country. The first corn crop in the south will be significantly reduced while planting has been delayed in the north.

Togo's commercial import capacity is expected to cover most of the country's import requirements for 1987/88. Wheat and rice imports are forecast at 53,000 tons and 43,000 tons, respectively. Little change is expected in the country's trade balance. While phosphate prices have remained low, Togo has been able to develop new markets, especially in the United States. In spite of rescheduling, Togo's debt service ratio remains high.

*Togo basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	Percent
<b>Major cereals</b>								
1980/81	286	0	63	349	0	135	Wheat	3.9
1981/82	279	0	85	364	0	136	Rice	4.2
1982/83	299	0	96	395	0	143	Corn	19.3
1983/84	282	0	80	362	0	127	Millet and sorghum	11.4
1984/85	429	0	100	529	0	180	Cassava	17.5
1985/86	401	0	95	496	0	164	Yams	18.0
1986/87	362	0	95	457	0	147	Total	74.3
1987/88	368	0						
1988/89	379	0						
<b>Roots</b>								
1980/81	906	0	0	906	0	349		
1981/82	899	0	0	899	0	336		
1982/83	838	0	0	838	0	304		
1983/84	728	0	0	728	0	256		
1984/85	786	0	0	786	0	268		
1985/86	775	0	0	775	0	256		
1985/86	750	0	0	750	0	241		
1987/88	915	0						
1988/89	960	0						

*Import requirements for Togo*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition- based	Status quo	Nutrition- based	Maximum absorbable
----- 1,000 tons -----						
<b>Major cereals</b>						
1987/88	368	465	453	97	85	212
1988/89	379	480	467	101	88	219
<b>Roots</b>						
1987/88	915	1,002	1,136	87	221	269
1988/89	960	1,034	1,175	74	215	262
<b>Cereal equivalent</b>						
1987/88	693	821	857	129	164	190
1988/89	720	847	885	128	165	191

*Financial indicators for Togo, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						
						Percent
1980	476	524	46	78	429	3
1981	378	414	46	152	332	6
1982	345	408	43	168	302	5
1983	274	292	48	173	225	10
1984	245	236	74	203	171	13
1985	244	252	89	297	155	13
1986	282	367	129	333	153	
1987	280	350	68	300	205	12
1988	300	375	73	300	198	12

*Additional food needs to support consumption for Togo, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	106	19	23	4	58	10
1988/89	107	18	21	4	58	10
Stock adjustment			0	0	0	0
1987/88			0	0	0	0
1988/89						
Total						
1987/88			23	4	58	10
1988/89			21	4	58	10

## Central Africa

Due to favorable weather throughout Central Africa, cereal production is not expected to differ significantly from last year's good crop. The 1987/88 estimate of total cereal production is 1.36 million tons.

The status quo import requirement for cereals and root crops for 1987/88 is 1.06 million tons. Angola accounts for one-half of this requirement as crop area has been reduced because of the war. Commercial import capacity is estimated at 751,000 tons. After a small stock increase, additional needs are 323,000 tons. Almost one-half of these needs are for Zaire because of a reduced import capacity as prices for principal exports remain low.

### Central Africa basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----				<u>Thousand</u>	<u>Kilos</u>
Major cereals					
1980/81	1,232	59	766	37,842	53
1981/82	1,241	60	690	38,818	50
1982/83	1,258	58	715	40,044	49
1983/84	1,302	51	734	41,071	50
1984/85	1,343	17	766	42,091	50
1985/86	1,363	33	836	43,265	51
1986/87	1,387	40	848	44,453	50
1987/88	1,360	40		45,689	
1988/89	1,455	40		46,966	

### Central Africa cereal use and additional food needs

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	8,995	9,090	311	52	443	73
1988/89	9,247	9,344	326	52	462	73
Stock adjustment						
1987/88			12	2	12	2
1988/89			9	2	9	2
Total						
1987/88			323	54	455	75
1988/89			336	54	471	75

## Angola

Angola's grain output continues to decline in 1987. Corn production is estimated at 230,000 tons, well below the base period average of 260,000. Despite generally favorable weather during the growing season, area planted was seriously reduced because of warfare. The bulk of production will be consumed at the subsistence level, with only a negligible surplus available for marketing. Urban areas rely almost entirely on imported food. Food aid has accounted for about 25 percent of grain imports in recent years, but Angola commercially imports large amounts of meat, dairy products, and vegetable oils.

Angola's import requirements are estimated at 500,000 tons, significantly above actual imports of recent years. The lack of financial data makes estimation of Angola's commercial import capacity difficult. While the country's foreign exchange earnings from petroleum should improve in 1987, commercial imports will probably be near the average of recent years--less than 200,000 tons. Angola's additional food needs will range from 100,000 to 200,000 tons.

*Angola basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	<u>1,000 tons</u>							<u>Kilos</u>
Major cereals								<u>Percent</u>
1980/81	330	0	302	682	0	98	Wheat	7.7
1981/82	273	0	276	549	0	76	Rice	2.8
1982/83	269	0	332	601	0	81	Corn	20.0
1983/84	298	0	331	629	0	83	Cassava	28.2
1984/85	279	0	401	680	0	88	Total	58.7
1985/86	275	0	365	640	0	81		
1986/87	271	0	365	636	0	78		
1987/88	251	0						
1988/89	298	0						
Roots								
1980/81	1,800	0	0	1,800	0	257		
1981/82	1,850	0	0	1,850	0	258		
1982/83	1,900	0	0	1,900	0	258		
1983/84	1,925	0	0	1,925	0	255		
1984/85	1,900	0	0	1,900	0	245		
1985/86	1,925	0	0	1,925	0	242		
1986/87	1,950	0	0	1,950	0	239		
1987/88	1,950	0						
1988/89	1,975	0						

*Import requirements for Angola*

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
	<u>1,000 tons</u>						
Major cereals							
1987/88	251	699	704	448	453	603	
1988/89	298	718	728	420	430	580	
Roots							
1987/88	1,950	2,098	2,122	148	172	254	
1988/89	1,975	2,157	2,179	182	204	292	
Cereal equivalent							
1987/88	996	1,500	1,515	504	519	700	
1988/89	1,052	1,542	1,560	490	508	692	

*Financial indicators for Angola, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available					
					Total	Share to major food imports				
	<u>Million dollars</u>									
	FINANCIAL DATA NOT AVAILABLE									

Angola's commercial import capacity is calculated by taking the value of actual commercial imports in the most recent year for which data are available (1985).

*Additional food needs to support consumption for Angola, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	387	65	117	20	132	22
1988/89	405	65	85	14	103	17
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			117	20	132	22
1988/89			85	14	103	17

***Central African Republic***

Weather conditions have been favorable for crop planting and development in Central African Republic (CAR). An average harvest is expected for the early season corn crop. The late harvest will depend on rains continuing through September. Good crops during the last two years have reduced grain imports. Import requirements for 1987/88 are estimated at 58,000 tons including some grain to cover a shortfall in root crops. Wheat import requirements are 35,000 tons and CAR can import most of that commercially.

*Central African Republic basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>						<u>Kilos</u>	<u>Percent</u>	
Major cereals								
1980/81	87	0	28	115	0	50	Wheat	1.7
1981/82	101	0	37	138	0	58	Corn	5.4
1982/83	90	0	39	129	0	53	Millet	7.1
1983/84	80	0	38	118	0	47	Cassava	41.7
1984/85	95	0	30	125	0	48	Yams and cocoyams	10.3
1985/86	105	0	40	145	0	54	Total	66.2
1986/87	105	0	30	135	0	49		
1987/88	109	0						
1988/89	115	0						
Roots								
1980/81	1,166	0	0	1,166	0	504		
1981/82	1,148	0	0	1,148	0	482		
1982/83	1,255	0	0	1,255	0	512		
1983/84	1,054	0	0	1,054	0	418		
1984/85	1,260	0	0	1,260	0	487		
1985/86	1,285	0	0	1,285	0	482		
1986/87	1,285	0	0	1,285	0	468		
1987/88	1,320	0						
1988/89	1,350	0						

*Import requirements for Central African Republic*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		<u>1,000 tons</u>				
Major cereals						
1987/88	109	144	128	35	19	55
1988/89	115	149	133	34	18	54
Roots						
1987/88	1,320	1,378	1,466	58	146	204
1988/89	1,350	1,420	1,511	70	161	220
Cereal equivalent						
1987/88	612	670	687	58	75	89
1988/89	629	690	708	60	79	92

*Financial indicators for Central African Republic, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		<u>Million dollars</u>				
						<u>Percent</u>
1980	147	185	2	55	146	3
1981	118	145	4	69	114	4
1982	124	154	5	45	120	6
1983	123	141	18	44	106	6
1984	115	140	15	50	99	2
1985	132	169	14	48	119	1
1986	130	196	19	64	111	
1987	135	200	14	60	117	3
1988	140	210	15	60	118	3

*Additional food needs to support consumption for Central African Republic, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	28	2	29	3	46	4
1988/89	30	3	30	3	49	4
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			29	3	46	4
1988/89			30	3	49	4

## Congo

Precipitation has been widespread and abundant in the Congo this season and a good cereal harvest is expected. Domestically produced grain accounts for less than one-fourth of the total availability, therefore the country's import requirements remain relatively high at 93,000 tons. This includes some grain required to cover a shortfall in root output. Actual imports will be mostly wheat, estimated at 80,000 tons.

The Congo is heavily dependent on petroleum for foreign exchange earnings, which fell sharply in 1986 due to low prices. Some recovery is anticipated in 1987. The country's international reserves have been drawn down and the debt service burden is very high. Additional food needs are estimated at 10,000 tons.

### Congo basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	Percent
Major cereals								
1980/81	11	0	84	95	0	61	Wheat	11.4
1981/82	15	0	50	65	0	41	Corn	1.7
1982/83	15	0	73	88	0	54	Cassava	46.9
1983/84	17	0	80	97	0	57	Total	60.0
1984/85	19	0	97	116	0	66		
1985/86	20	0	72	92	0	51		
1986/87	21	0	75	96	0	52		
1987/88	22	0						
1988/89	23	0						
Roots								
1980/81	520	0	0	520	0	335		
1981/82	530	0	0	530	0	332		
1982/83	533	0	0	533	0	324		
1983/84	490	0	0	490	0	289		
1984/85	550	0	0	550	0	315		
1985/86	570	0	0	570	0	317		
1986/87	560	0	0	560	0	302		
1987/88	580	0						
1988/89	600	0						

### Import requirements for Congo

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	22	101	83	79	61	105
1988/89	23	104	86	81	63	108
Roots						
1987/88	580	616	704	36	124	87
1988/89	600	635	725	35	125	87
Cereal equivalent						
1987/88	253	347	364	93	110	128
1988/89	262	358	375	95	113	131

*Financial indicators for Congo, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	911	545	93	86	818	3
1981	1,073	804	136	120	937	2
1982	1,109	664	183	32	926	3
1983	1,066	650	265	4	801	3
1984	1,268	618	258	2	1,011	3
1985	1,150	632	323	2	826	3
1986	699	495	481	2	217	
1987	758	412	170	2	588	3
1988	800	500	180	2	620	3

*Additional food needs to support consumption for Congo, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	83	12	10	1	27	4
1988/89	92	13	3	0	21	3
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			10	1	27	4
1988/89			3	0	21	3

## *Equatorial Guinea*

In pursuing its economic recovery program, the Government of Equatorial Guinea has received assistance from bilateral and international donors. Spain and the World Bank are the largest contributors. The Government has adopted the CFA franc as its national currency and joined the Central African Custom Union and the Central Bank of Central Africa. While the austerity program required by these moves has caused some problems, the fiscal discipline seems certain to pay dividends in the future.

Consumption is based heavily on roots and fruit, with small imports of wheat and rice. Import requirements are estimated at 4,000 tons, slightly above the level of recent years. Import capacity is 3,000 tons. The nutrition-based need is not calculated in this report because FAO food balance data are not available.

*Equatorial Guinea basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----								
Major cereals							<u>Kilos</u>	<u>Percent</u>
1980/81	0	0	3	3	0	10	Rice	NA
1981/82	0	0	3	3	0	9	Cassava	NA
1982/83	0	0	2	2	0	6	Sweet	
1983/84	0	0	2	2	0	6	potatoes	NA
1984/85	0	0	2	2	0	6	Total	NA
1985/86	0	0	3	3	0	9		
1986/87	0	0	3	3	0	8		
1987/88	0	0						
1988/89	0	0						
Roots								
1980/81	81	0	0	81	0	270		
1981/82	84	0	0	84	0	265		
1982/83	87	0	0	87	0	268		
1983/84	88	0	0	88	0	264		
1984/85	89	0	0	89	0	260		
1985/86	90	0	0	90	0	257		
1986/87	92	0	0	92	0	256		
1987/88	95	0						
1988/89	98	0						

*Import requirements for Equatorial Guinea*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	0	3	NA	3	NA	5
1988/89	0	3	NA	3	NA	5
Roots						
1987/88	95	99	NA	4	NA	25
1988/89	98	102	NA	4	NA	25
Cereal equivalent						
1987/88	33	37	NA	4	NA	13
1988/89	34	38	NA	4	NA	14

*Financial indicators for Equatorial Guinea, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						
1980	15	33	2	5	13	4
1981	16	38	4	6	12	18
1982	14	37	3	6	11	9
1983	18	28	3	5	15	7
1984	19	30	1	5	18	0
1985	22	32	2	5	20	9
1986	26	38	5	5	21	
1987	26	38	4	5	22	5
1988	26	40	4	5	21	5

*Additional food needs to support consumption for Equatorial Guinea, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	3	1	1	0	NA	NA
1988/89	3	1	1	0	NA	NA
Stock adjustment						
1987/88			0	0	NA	NA
1988/89			0	0	NA	NA
Total						
1987/88			1	0	NA	NA
1988/89			1	0	NA	NA

## Zaire

Grain production is expected to decline slightly in Zaire in 1987, due to a smaller corn crop. Output had expanded rapidly from 1984 to 1986. Cassava production is forecast to increase, but statistics on root crops are very unreliable. The country is still far from reaching its goal of food self-sufficiency. Wheat imports in 1986/87 are estimated at 250,000 tons, a record. During 1986, the United States exported more than 150,000 tons of wheat and flour to Zaire under the Export Enhancement Program. Rice trade was liberalized and imports increased to over 100,000 tons in 1986. It is very difficult to make an exact inventory of corn availability because of unrecorded imports from neighboring countries, especially Zambia.

Economic reforms initiated in 1983 in conjunction with the IMF focused on liberalizing the economy and cutting the budget deficits. The centerpiece of the adjustment program was a far-reaching reform of the exchange-rate system. However, implementation of the program for 1986, which was designed to consolidate the gains of previous years, encountered difficulties. This was due to a 24-percent decline in the terms of trade. Export earnings fell while imports rose 9 percent. In addition, the large external debt weighs heavily on the budget and the balance of payments. The outlook is for little improvement in Zaire's economic situation in 1987. World prices for Zaire's major exports, copper and cobalt, are expected to remain low. The assumption made here that the country's debt service ratio will not go above the average of 1981-85 may be overly optimistic. If Zaire's actual debt payments are higher than estimated, commercial import capacity would be less than the forecast of about 250,000 tons.

While Zaire's import requirements for 1987/88 are below the estimate made a year ago, a decline in import capacity leaves higher status quo additional food needs. An increase in the unit value of Zaire's commercial imports accounts for most of this decline. Nutrition-based needs are somewhat higher, but nutritional problems may be worse than indicated because of uneven food distribution.

*Zaire basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	
Major cereals							Percent	
1980/81	754	59	349	1,102	0	41	Wheat	2.1
1981/82	852	60	324	1,178	0	43	Rice	3.1
1982/83	884	58	269	1,160	0	41	Corn	8.9
1983/84	907	51	283	1,224	0	42	Millet and sorghum	0.4
1984/85	950	17	236	1,170	0	39	Cassava	56.0
1985/86	963	33	356	1,312	0	43	Total	70.4
1986/87	990	40	375	1,365	0	44		
1987/88	978	40						
1988/89	1,019	40						
Roots								
1980/81	11,900	0	0	11,900	0	446		
1981/82	12,650	0	0	12,650	0	463		
1982/83	13,125	0	0	13,125	0	465		
1983/84	13,450	0	0	13,450	0	464		
1984/85	12,925	0	0	12,925	0	436		
1985/86	13,600	0	0	13,600	0	446		
1986/87	14,200	0	0	14,200	0	453		
1987/88	14,500	0						
1988/89	14,700	0						

*Import requirements for Zaire*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	978	1,360	1,331	382	353	444
1988/89	1,019	1,397	1,369	378	350	442
Roots						
1987/88	14,500	14,561	14,882	61	382	457
1988/89	14,700	14,962	15,277	262	577	668
Cereal equivalent						
1987/88	6,039	6,441	6,524	403	486	567
1988/89	6,149	6,619	6,701	469	551	637

*Financial indicators for Zaire, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- <u>Million dollars</u> -----						
1980	2,269	1,761	365	204	1,904	5
1981	1,678	1,637	194	152	1,484	8
1982	1,601	1,436	135	39	1,466	5
1983	1,686	1,330	186	102	1,500	4
1984	1,893	1,321	319	137	1,574	3
1985	1,862	1,420	341	190	1,521	5
1986	1,839	1,544	751	269	1,089	
1987	1,850	1,550	252	250	1,655	4
1988	1,875	1,600	256	250	1,670	4

*Additional food needs to support consumption for Zaire, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	248	44	155	28	238	42
1988/89	262	45	207	35	289	49
Stock adjustment						
1987/88			12	2	12	2
1988/89			9	2	9	2
Total						
1987/88			167	30	250	44
1988/89			217	37	299	51

## East Africa

For the third consecutive year, cereal production in East Africa is estimated to be well above average as weather conditions remain favorable. As a result, stocks remain high--more than 2 million tons at the beginning of the 1987/88 crop year. The status quo import requirement for 1987/88 is 2.8 million tons. Together, Ethiopia and Sudan account for 60 percent of these requirements.

Severe foreign exchange constraints, resulting from lower export prices (especially coffee) and increased debt service responsibilities, have limited commercial import capacity. Taking this into account, additional food needs remain high--2.1 million tons. Almost half of these needs are for Ethiopia.

### East Africa basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----				<u>Thousand</u>	<u>Kilos</u>
Major cereals					
1980/81	15,306	1,077	1,798	121,603	141
1981/82	16,831	1,037	1,659	125,707	144
1982/83	16,899	1,482	1,251	129,771	139
1983/84	15,671	1,575	1,838	133,559	138
1984/85	13,541	597	4,170	136,749	126
1985/86	18,823	1,060	2,291	142,212	142
1986/87	19,282	1,955	1,262	146,683	139
1987/88	18,605	2,063		151,469	
1988/89	18,781	2,063		156,417	

### East Africa cereal use, additional food needs to support consumption, and stock adjustment

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	27,942	31,653	1,987	300	5,696	931
1988/89	28,868	32,639	2,456	349	6,214	964
Stock adjustment						
1987/88			105	15	88	13
1988/89			75	10	75	10
Total						
1987/88			2,092	315	5,784	944
1988/89			2,532	359	6,290	974
Maximum absorbable						
Cereal equivalent						
1987/88			2,092	315	3,691	601
1988/89			2,532	359	4,164	640

## Burundi

Burundi's 1987 main season crops of sorghum and roots were harvested in May. Growing conditions were favorable and a good harvest was anticipated. Generally, Burundi has abundant and dependable rainfall, allowing two grain harvests a year. No exceptional shortfalls have occurred recently. However, about 20,000 tons of wheat are imported annually to meet consumption requirements.

Burundi's financial situation improved in 1986 because of higher foreign exchange earnings from coffee exports. A reduction in 1986 imports led to a significant decline in the balance of trade deficit. The outlook for 1987 is less favorable because of much lower world coffee prices. Burundi's import capacity is estimated at 21,000 tons, leaving additional food needs of 8,000 tons. Nutritional needs are much higher.

*Burundi basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>								
Major cereals							<u>Kilos</u>	<u>Percent</u>
1980/81	312	0	18	330	0	81	Wheat	1.5
1981/82	332	0	20	352	0	84	Corn	11.1
1982/83	314	0	20	334	0	78	Sorghum	11.0
1983/84	326	0	18	344	0	78	Millet	0.8
1984/85	278	0		303	0	67	Cassava	15.2
1985/86	331	0	23	354	0	76	Sweet potato	18.7
1986/87	347	0	22	369	0	77	Total	58.4
1987/88	359	0						
1988/89	370	0						
Roots								
1980/81	870	0	0	870	0	214		
1981/82	900	0		900	0	215		
1982/83	900	0	0	900	0	210		
1983/84	1,002	0	0	1,002	0	227		
1984/85	947	0	0	947	0	208		
1985/86	1,020	0	0	1,020	0	218		
1986/87	1,050	0	0	1,050	0	218		
1987/88	1,060	0						
1988/89	1,075	0						

*Import requirements for Burundi*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	359	381	412	22	53	58
1988/89	370	392	424	22	54	59
Roots						
1987/88	1,060	1,080	2,011	20	951	123
1988/89	1,075	1,111	2,066	36	991	142
Cereal equivalent						
1987/88	652	680	959	28	307	76
1988/89	667	700	986	32	319	82

*Financial indicators for Burundi, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		<u>Million dollars</u>				
						<u>Percent</u>
1980	65	168	6	80	59	18
1981	75	161	5	46	70	13
1982	88	214	6	17	82	14
1983	81	184	8	16	73	15
1984	103	187	17	10	86	7
1985	112	189	21	19	90	8
1986	145	166	69	57	76	
1987	140	175	18	50	147	10
1988	150	180	19	50	155	10

*Additional food needs to support consumption for Burundi, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	21	5	8	2	287	72
1988/89	23	5	10	2	296	71
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			8	2	287	72
1988/89			10	2	296	71
Maximum absorbable						
Cereal equivalent						
1987/88			8	2	56	14
1988/89			10	2	59	14

**Djibouti**

Djibouti is a low-income country that is highly dependent on food imports. The country's environment is not suitable for crop production other than small gardens. The rural population depends entirely on livestock production. Status quo cereal consumption requirements for 1987/88 are 59,000 tons, of which approximately 51,000 tons may be met by commercial imports. With stock adjustment, additional food needs for 1987/88 are 10,000 tons.

*Djibouti basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----								<u>Kilos</u>
Major cereals							<u>Percent</u>	
1980/81	0	5	37	40	0	143	Wheat	NA
1981/82	0	2	38	40	0	136	Rice	NA
1982/83	0	0	45	45	0	147	Sorghum	NA
1983/84	0	0	67	67	0	212	Total	NA
1984/85	0	0	70	70	0	241		
1985/86	0	0	55	55	0	185		
1986/87	0	0	63	63	0	207		
1987/88	0	0						
1988/89	0	0						

*Import requirements for Djibouti*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	0	59	NA	59	NA	80
1988/89	0	60	NA	60	NA	82

*Financial indicators for Djibouti, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						<u>Percent</u>
1980	177	226	3	66	174	10
1981	185	225	3	80	182	9
1982	167	226	3	80	164	11
1983	158	225	4	75	154	10
1984	165	240	4	75	161	12
1985	173	237	4	75	169	10
1986	175	240	7	75	168	
1987	175	240	4	70	165	11
1988	182	245	4	70	170	11

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent Consumption						
1987/88	51	10	8	2		
1988/89	55	11	5	1		
Stock adjustment						
1987/88			3	1		
1988/89			0	0		
Total						
1987/88			10	2		
1988/89			5	1		

## **Ethiopia**

Ethiopia's 1987/88 cereal production is estimated at 5.96 million tons, up slightly from the previous year. Widespread rainfall, which resulted in an above average secondary (belg) crop for the 1986/87 season, has helped prepare the land for this season's main (meher) crop.

Ethiopia's cereal import requirements during the October 1987 - September 1988 marketing year are estimated at 1.04 million tons. This estimate is at best preliminary since the primary factor determining this requirement is the size of the 1987 main season crop, harvested between October and December. Cereals include wheat, corn, barley, sorghum, millet and teff. If other commodities such as pulses, potatoes, and milk were included, the import requirements would change.

The estimated commercial import capacity is low--155,000 tons. Recent export earnings in Ethiopia are only 20 percent above the level of the early 1980's. On the other hand, imports are 50 percent higher. The level of debt servicing has risen steadily during the last several years.

Taking into account the low commercial import capacity and a small stock increase, additional food needs equal 917,000 tons. AID estimates commercial imports at 250,000 tons, which thereby reduces additional food needs.

Estimates of Ethiopia's need can vary widely depending on the base period and the level of per capita total use. The base period used in this report is an average of the years 1982/83-1986/87, excluding the drought year, 1984/85. This gives a per capita cereal use of 151 kgs. The AID mission in Ethiopia is currently using a per capita consumption number of 162.6 kgs. This estimate is calculated on a different base (1980/81-1983/84) and includes non-grain commodities. Using only grain data for the same period, the two estimates are similar. The only major difference is the lack of stock data in the AID base period. A recent AID mission report indicates that stocks were drawn down to 174,000 tons during 1986/87. This change would increase import requirements to 1.1 million tons.

### Ethiopia basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			<u>1,000 tons</u>			<u>Kilos</u>		<u>Percent</u>
Major cereals								
1980/81	5,559	695	226	5,847	213	155	Wheat	9.1
1981/82	5,324	420	303	5,745	172	147	Corn	15.3
1982/83	6,649	130	323	6,472	160	161	Barley	9.6
1983/84	5,749	470	531	6,478	187	158	Sorghum	15.9
1984/85	4,790	85	970	5,361	176	131	Millet	2.0
1985/86	5,245	308	1,075	6,056	122	141	Teff	15.5
1986/87	5,750	450	740	6,318	172	144	Total	67.6
1987/88	5,960	450						
1988/89	5,920	450						

### Import requirements for Ethiopia

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		<u>1,000 tons</u>				
Major cereals						
1987/88	5,960	6,997	8,968	1,037	3,008	1,920
1988/89	5,920	7,199	9,209	1,279	3,289	2,181

### Financial indicators for Ethiopia, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
			<u>Million dollars</u>			<u>Percent</u>
1980	573	871	34	75	539	7
1981	531	850	43	246	488	7
1982	579	915	55	178	525	4
1983	572	993	68	119	504	6
1984	627	1,090	84	41	543	7
1985	583	1,293	105	148	478	14
1986	650	1,300	171	251	479	
1987	675	1,300	89	251	681	9
1988	675	1,300	89	251	681	9

*Additional food needs to support consumption for Ethiopia, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	155	23	882	130	2,853	421
1988/89	162	23	1,117	158	3,127	441
Stock adjustment						
1987/88			35	5	35	5
1988/89			14	2	14	2
Total						
1987/88			917	135	2,889	426
1988/89			1,131	159	3,141	443
Maximum absorbable						
Cereal equivalent						
1987/88			917	135	1,800	265
1988/89			1,131	159	2,033	287

## Kenya

Kenya realized bumper grain crops for the second consecutive year in 1986, and exported about 500,000 tons of corn to reduce excess stocks, but stocks remained relatively high in mid-1987. Favorable rainfall, an increase in producer corn prices in real terms to the equivalent of \$129 a ton, adequate inputs, and increased plantings all contributed to the record crop. However, per capita food production is not increasing in Kenya.

For 1987, the weather again appears to be satisfactory, but incentives for production are not as strong. Financing for the cereal crops has become tight, and producer prices for corn and wheat were not increased. Therefore, the 1987 harvest is expected to fall from that of 1986.

Status quo cereal import requirements for 1987/88 are estimated at 336,000 tons. Rising wheat and some rice imports will account for most of this. It is anticipated that the corn production shortfall can be made up from stocks, and corn imports should not be necessary. Nutrition-based needs, however, continue to be considerably higher than status quo estimates.

Kenya's 1987 export earnings are expected to drop considerably from 1986, as both the quantity of coffee exported and the export prices are down. In addition, the outlook is for lower tea export prices during 1987. Therefore Kenya's commercial import capacity for 1987/88 is down to 137,000 tons, and status quo additional cereal needs are estimated at 223,000 tons. A drawdown of corn stocks is expected to reduce this estimated import need.

*Kenya basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
				<u>1,000 tons</u>				
							Kilos	Percent
<b>Major cereals</b>								
1980/81	2,260	101	494	2,556	68	160	Wheat	6.0
1981/82	2,585	231	340	2,472	82	149	Rice	0.9
1982/83	2,675	602	96	2,538	91	147	Corn	40.2
1983/84	2,363	744	77	2,670	76	148	Sorghum	3.3
1984/85	1,926	438	897	2,669	72	142	Millet	2.1
1985/86	3,123	520	90	2,847	84	145	Cassava	5.6
1986/87	3,164	802	(170)	2,864	111	141	Sweet potato	2.2
1987/88	2,894	821					Potatoes	1.3
1988/89	2,916	821					Total	61.7
<b>Roots</b>								
1980/81	1,315	0	0	1,315	0	80		
1981/82	1,386	0	0	1,386	0	81		
1982/83	1,560	0	0	1,560	0	87		
1983/84	1,365	0	0	1,365	0	73		
1984/85	1,525	0	0	1,525	0	79		
1985/86	1,630	0	0	1,630	0	81		
1986/87	1,670	0	0	1,670	0	79		
1987/88	1,688	0						
1988/89	1,730	0						

*Import requirements for Kenya*

Commodity/year	Production	Total use		Import requirements				
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable		
		<u>1,000 tons</u>						
<b>Major cereals</b>								
1987/88	2,894	3,230	3,941	336	1,047	606		
1988/89	2,916	3,362	4,083	446	1,167	727		
<b>Roots</b>								
1987/88	1,688	1,768	2,072	80	384	229		
1988/89	1,730	1,840	2,151	110	421	265		
<b>Cereal equivalent</b>								
1987/88	3,459	3,819	4,669	360	1,210	663		
1988/89	3,495	3,975	4,839	481	1,344	796		

*Financial indicators for Kenya, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	1,261	2,345	249	492	1,012	14
1981	1,072	1,881	287	231	785	16
1982	934	1,495	326	212	608	14
1983	925	1,204	305	376	620	12
1984	1,034	1,349	348	390	686	17
1985	942	1,289	386	391	556	11
1986	1,157	1,450	375	413	782	
1987	945	1,425	337	442	628	13
1988	1,050	1,450	374	360	606	13

*Additional food needs to support consumption for Kenya, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	137	20	223	32	1,073	154
1988/89	138	19	342	47	1,206	166
Stock adjustment						
1987/88			67	10	67	10
1988/89			36	5	36	5
Total						
1987/88			291	42	1,140	164
1988/89			379	52	1,242	171
Maximum absorbable						
Cereal equivalent						
1987/88			291	42	593	85
1988/89			379	52	694	95

## Rwanda

Weather conditions for the second main season crop harvested in May were favorable and average to above-average production was anticipated. Rwanda's grain imports consist mostly of 15-20,000 tons of wheat annually. Some corn or sorghum is imported in shortfall years. Rwanda's import requirements are driven up by deficits in roots and plantains. While production of these crops has declined in recent years, historical levels of per capita use appear unrealistically high. Current availability should be adequate to meet consumption requirements. Import requirements for major cereals are about 30,000 tons.

Rwanda's economic situation improved significantly in 1986, especially in the external sector. High world coffee prices increased Rwanda's foreign exchange earnings in 1986. At the same time, imports dropped, improving the balance of the trade picture. The outlook for 1987 is less favorable because of lower coffee prices. Rwanda's import capacity is estimated at only 9,000 tons.

Rwanda basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	Percent
Major cereals								
1980/81	267	0	12	279	0	54	Wheat	0.6
1981/82	282	0	16	298	0	56	Corn	5.6
1982/83	310	0	16	326	0	59	Sorghum	3.3
1983/84	336	0	23	359	0	62	Cassava	17.0
1984/85	254	0	43	297	0	49	Sweet potato	21.2
1985/86	323	0	26	349	0	56	Plantains	9.8
1986/87	344	0	15	359	0	55	Total	57.4
1987/88	351	0						
1988/89	359	0						
Roots								
1980/81	3,476	0	0	3,476	0	673		
1981/82	3,816	0	0	3,816	0	712		
1982/83	3,998	0	0	3,998	0	718		
1983/84	4,251	0	0	4,251	0	732		
1984/85	3,037	0	0	3,037	0	504		
1985/86	3,525	0	0	3,525	0	564		
1986/87	3,660	0	0	3,660	0	564		
1987/88	4,125	0						
1988/89	4,300	0						

Import requirements for Rwanda

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	351	380	368	29	17	66
1988/89	359	394	379	35	20	74
Roots						
1987/88	4,125	4,310	4,909	185	784	811
1988/89	4,300	4,478	5,103	178	803	828
Cereal equivalent						
1987/88	1,620	1,706	1,914	86	295	318
1988/89	1,682	1,772	1,986	90	304	331

*Financial indicators for Rwanda, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- <u>Million dollars</u> -----						
1980	134	196	2	166	132	8
1981	113	207	3	153	111	11
1982	109	215	5	108	103	9
1983	124	198	4	92	120	11
1984	143	198	6	89	137	13
1985	131	299	15	94	116	9
1986	185	200	19	141	166	
1987	180	276	11	125	166	11
1988	190	275	11	125	176	11

*Additional food needs to support consumption for Rwanda, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
1987/88	9	3	77	25	285	93
1988/89	10	3	80	25	294	92
Stock adjustment			0	0	0	0
1987/88			0	0	0	0
1988/89						
Total			77	25	285	93
1987/88			80	25	294	92
1988/89						

## *Somalia*

Somalia's import requirements for 1987/88 are estimated at 297,000 tons. The main season (gu) crop may be reduced because of the late start of the rainy season. Therefore, cereal production for 1987/88 is estimated to be down from last year to 589,000 tons. Poor pasture conditions, due to prolonged drought in the central region, have resulted in livestock losses.

With commercial import capacity of 140,000 tons in 1987/88, additional food needs are estimated to be 143,000 tons. Due to good main season crops in 1985/86 and 1986/87, stocks have increased. However, imports of wheat and rice will be required. Continued self-sufficiency is expected for coarse grains in 1987/88.

*Somalia basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonseed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>						<u>Kilos</u>	<u>Percent</u>	
<b>Major cereals</b>								
1980/81	264	0	422	665	11	111	Wheat	9.8
1981/82	370	10	394	737	12	112	Rice	9.0
1982/83	399	25	249	641	12	94	Corn	17.5
1983/84	358	20	330	671	12	95	Sorghum	14.7
1984/85	475	25	344	787	12	108	Milk	13.0
1985/86	554	45	274	816	12	109	Total	63.9
1986/87	646	45	243	880	14	114		
1987/88	589	40						
1988/89	591	40						
<b>Milk (whole)</b>								
1980/81	539	0	13	552	0	90		
1981/82	543	0	14	557	0	83		
1982/83	547	0	11	558	0	80		
1983/84	529	0	14	543	0	76		
1984/85	530	0	14	544	0	74		
1985/86	540	0	20	560	0	74		
1986/87	560	0	20	580	0	74		
1987/88	560	0						
1988/89	560	0						

*Import requirements for Somalia*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	589	886	1,153	297	564	337
1988/89	591	913	1,185	322	594	363
<b>Milk (dry equiv.)</b>						
1987/88	50	54	116	4	66	24
1988/89	50	55	119	5	69	27

*Financial indicators for Somalia, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						<u>Percent</u>
1980	333	402	9	15	324	3
1981	389	371	47	31	342	18
1982	344	484	19	7	325	9
1983	299	450	25	9	274	16
1984	308	406	27	1	281	14
1985	318	394	57	3	261	8
1986	308	407	180	2	129	
1987	320	420	32	2	286	13
1988	320	410	32	2	286	13

*Additional food needs to support consumption for Somalia, with stock adjustment, and as constrained by maximum absorbable imports*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent Consumption						
1987/88	140	29	144	30	398	82
1988/89	146	29	167	33	420	83
Stock adjustment						
1987/88			(0)	(0)	(0)	(0)
1988/89			1	0	1	0
Total						
1987/88			143	29	398	82
1988/89			169	33	422	83
Milk						
1987/88	7	5	0	0	0	0
1988/89	7	5	0	0	0	0
Total						
1987/88		34		29		82
1988/89		34		33		83
Maximum absorbable						
Cereal equivalent						
1987/88			143	29	170	35
1988/89			169	33	190	37
Milk						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88				29		35
1988/89				33		37

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## **Sudan**

Cereal production has fallen from the record level of 1985/86, but remains well above average. Planting conditions are favorable for grain crops in the south due to early rainfall. Also, the level of the Blue Nile has risen, thus increasing availability of irrigation water. The estimate for 1987/88 production is 3.3 million tons. A sorghum surplus exists in the central and eastern regions following 2 years of large harvests. This has caused prices to fall, and as a result, some farmers are shifting to peanut production.

Sudan's status quo import requirements for 1987/88 are estimated at 646,000 tons. Commercial import capacity is estimated at only 150,000 tons due to high levels of debt servicing. Including a small stock adjustment, a 14,000 ton-reduction, additional food needs are 481,000 tons.

*Sudan basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			<u>1,000 tons</u>				<u>Kilos</u>	
<b>Major cereals</b>								<u>Percent</u>
1980/81	2,816	190	146	2,688	210	152	Wheat	7.9
1981/82	3,981	254	175	3,452	318	192	Rice	0.3
1982/83	2,453	640	182	2,780	198	146	Corn	0.8
1983/84	2,327	297	451	2,863	197	146	Sorghum	33.2
1984/85	1,382	15	1,595	2,752	90	131	Millet	9.5
1985/86	4,275	150	560	4,268	117	191	Peanuts	11.9
1986/87	3,906	600	144	3,892	258	176	Total	63.7
1987/88	3,327	500						
1988/89	3,502	500						
<b>Peanuts</b>								
1980/81	707	50	(41)	706	0	37		
1981/82	838	10	(100)	698	0	35		
1982/83	492	50	(70)	442	0	22		
1983/84	413	30	(45)	388	0	18		
1984/85	386	10	0	386	0	18		
1985/86	274	10	0	274	0	12		
1986/87	399	10	0	399	0	17		
1987/88	450	10						
1988/89	450	10						

*Import requirements for Sudan*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		<u>1,000 tons</u>				
<b>Major cereals</b>						
1987/88	3,327	4,003	4,034	676	707	1,466
1988/89	3,502	4,123	4,164	621	662	1,431
<b>Peanuts</b>						
1987/88	450	419	622	(31)	172	629
1988/89	450	432	633	(18)	183	660
<b>Cereal equivalent</b>						
1987/88	3,777	4,423	4,656	646	879	1,918
1988/89	3,952	4,555	4,796	603	844	1,908

*Financial indicators for Sudan, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
					<u>Million dollars</u>	
						<u>Percent</u>
1980	689	1,127	104	49	585	1
1981	793	1,634	145	17	648	13
1982	401	750	115	21	286	32
1983	514	703	87	17	427	20
1984	519	600	107	17	412	17
1985	444	579	130	12	314	17
1986	536	850	899	20		
1987	550	850	131	20	418	18
1988	550	900	131	20	417	18

*Additional food needs to support consumption for Sudan, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent Consumption						
1987/88	150	20	495	65	728	96
1988/89	157	20	447	56	688	87
Stock adjustment						
1987/88			(14)	(2)	(14)	(2)
1988/89			15	2	15	2
Total						
1987/88			481	63	714	94
1988/89			462	58	703	89

## **Tanzania**

Tanzania increased food production for the sixth consecutive year in 1986 and realized a record grain crop, with good rainfall and increased producer incentives. The National Milling Corporation was able to accumulate corn stocks, but not wheat and rice.

For 1987, weather conditions are again satisfactory. Damage from pests has been generally controlled, and another good crop is expected. With increased corn stocks, some white corn exports are probable during 1987/88. Status quo cereal import requirements, mainly for wheat and rice, are estimated at 198,000 tons, and lower than the November 1986 update.

Tanzania's Economic Recovery Program, supported with loans from the IMF, the World Bank, and others, has resulted in rescheduling and in reduction of debt service payments currently due. Foreign exchange reserves have also been increased from very low levels. It is therefore estimated that foreign exchange available in 1987 will be higher compared to the very low amounts of 1985 and 1986.

The commercial food import capacity for 1987/88 is estimated at 130,000 tons. Since status quo import requirements are 283,000 tons, cereal equivalent additional food needs are estimated at 152,000 tons.

*Tanzania basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	<u>Percent</u>
Major cereals								
1980/81	2,784	86	413	3,093	70	171	Wheat	2.8
1981/82	2,815	120	353	3,133	70	168	Rice	5.2
1982/83	2,820	85	315	3,111	65	161	Corn	21.5
1983/84	2,847	44	363	3,162	58	158	Sorghum	2.5
1984/85	3,061	34	263	3,261	60	158	Millet	1.5
1985/86	3,492	37	221	3,620	72	170	Cassava	28.0
1986/87	3,560	58	235	3,528	73	161	Total	61.5
1987/88	3,550	252						
1988/89	3,528	252						
Roots								
1980/81	5,631	0	0	5,631	0	304		
1981/82	6,000	0	0	6,000	0	314		
1982/83	5,000	0	0	5,000	0	254		
1983/84	5,400	0	0	5,400	0	265		
1984/85	5,600	0	0	5,600	0	266		
1985/86	5,500	0	0	5,500	0	253		
1986/87	5,500	0	0	5,500	0	245		
1987/88	5,750	0						
1988/89	5,900	0						

*Import requirements for Tanzania*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	3,550	3,748	3,693	198	143	401
1988/89	3,528	3,874	3,798	346	270	556
Roots						
1987/88	5,750	6,014	5,649	264	(101)	1,518
1988/89	5,900	6,216	5,832	316	(68)	1,612
Cereal equivalent						
1987/88	5,390	5,673	5,501	283	111	815
1988/89	5,416	5,863	5,664	447	248	998

*Financial indicators for Tanzania, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
					<u>Percent</u>	
1980	508	1,069	76	20	432	19
1981	688	1,038	74	19	615	4
1982	413	984	63	5	350	12
1983	379	693	65	19	314	13
1984	388	737	71	27	317	8
1985	286	894	61	16	225	8
1986	347	940	381	61		
1987	300	1,030	54	60	267	10
1988	350	1,093	63	62	307	10

*Additional food needs to support consumption for Tanzania, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent Consumption						
1987/88	132	13	151	14	0	0
1988/89	159	15	288	26	89	8
Stock adjustment						
1987/88			15	1	0	0
1988/89			9	1	9	1
Total						
1987/88			165	16	0	0
1988/89			297	27	98	9

## *Uganda*

Uganda's food and agricultural production increased in 1986 for the sixth consecutive year, but on a per capita basis it continued to lag. Weather was generally good, and civil strife abated, except in the north.

In 1987, rainfall again appears to be favorable, and with increased plantings, food production should exceed that of 1986. However, some security problems continue, especially in the north. On a status quo basis, the country is again expected to be self-sufficient in coarse grains and pulses during 1987, but small imports of wheat and rice will be required as usual.

On a nutrition basis, production of coarse grains and pulses are estimated to be below requirements, with nutrition-based additional cereal equivalent needs for 1987/88 estimated at 72,000 tons.

Given reduced coffee export prices in 1987, it is estimated that foreign exchange availability will drop below that of 1986. Uganda's commercial food import capacity for 1987/88 is estimated at only 8,000 tons, as only 3 percent of projected available foreign exchange is allocated for food imports.

*Uganda basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>						<u>Kilos</u>	<u>Percent</u>	
<b>Major cereals</b>								
1980/81	1,044	0	30	1,015	59	84	Corn	11.4
1981/82	1,142	0	20	1,102	60	89	Sorghum	7.1
1982/83	1,279	0	5	1,209	75	96	Millet	10.4
1983/84	1,365	0	(22)	1,263	80	97	Cassava	12.2
1984/85	1,375	0	(37)	1,248	90	94	Sweet potato	5.2
1985/86	1,480	0	(33)	1,366	81	99	Potatoes	1.1
1986/87	1,565	0	(30)	1,447	88	101	Bananas/plantains	19.5
1987/88	1,575	0					Dry beans	8.4
1988/89	1,595	0					Total	75.2
<b>Roots</b>								
1980/81	7,264	0	0	7,264	0	569		
1981/82	8,195	0	0	8,195	0	627		
1982/83	8,570	0	0	8,570	0	638		
1983/84	9,102	0	0	9,102	0	658		
1984/85	9,176	0	0	9,176	0	645		
1985/86	9,440	0	0	9,440	0	643		
1986/87	9,685	0	0	9,685	0	639		
1987/88	9,870	0						
1988/89	10,227	0						
<b>Pulses</b>								
1980/81	186	0	4	190	0	15		
1981/82	240	0	0	240	0	18		
1982/83	300	0	1	301	0	22		
1983/84	314	0	0	314	0	23		
1984/85	240	0	(4)	236	0	17		
1985/86	360	0	(5)	355	0	24		
1986/87	350	0	(10)	340	0	22		
1987/88	360	0						
1988/89	370	0						

*Import requirements for Uganda*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	1,575	1,511	1,911	(64)	336	14
1988/89	1,595	1,564	1,969	(31)	374	50
<b>Roots</b>						
1987/88	9,870	10,132	9,299	262	(571)	458
1988/89	10,227	10,488	9,624	261	(603)	463
<b>Cereal equivalent</b>						
1987/88	3,752	3,700	3,833	(52)	80	1,419
1988/89	3,868	3,830	3,973	(38)	104	1,485
<b>Pulses</b>						
1987/88	360	330	396	(30)	36	19
1988/89	370	342	409	(28)	39	22

*Financial indicators for Uganda, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	319	318	22	17	297	3
1981	229	278	62	10	167	9
1982	349	427	65	15	284	6
1983	372	350	82	5	290	3
1984	383	370	86	4	297	3
1985	350	330	106	4	244	2
1986	425	435	114	4	311	
1987	365	470	85	4	279	3
1988	438	565	102	4	334	3

*Additional food needs to support consumption for Uganda, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	8	2	0	0	72	14
1988/89	11	2	0	0	94	17
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	72	14
1988/89			0	0	94	17
Pulses						
1987/88	1	0	0	0	35	19
1988/89	1	0	0	0	39	21
Total						
1987/88		2		0		33
1988/89		2		0		38
Maximum absorbable						
Cereal equivalent						
1987/88			0	0	72	14
1988/89			0	0	94	17
Pulses						
1987/88			0	0	19	10
1988/89			0	0	22	12
Total						
1987/88			0			24
1988/89			0			29

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## Southern Africa

Cereal production in Southern Africa during 1987 is down about 25 percent from the good harvest of 1986, and will be the poorest crop since the severe drought of 1983. Drought was the major factor in the reduced production in nearly every country; in Mozambique, guerilla warfare played the major role in addition to drought in the southern part of the country. In Zimbabwe, drought was the major factor accompanied by the policy changes on incentives for corn production. Relative price incentives also played a role in Malawi's relatively small corn crop, and in addition, some drought damage occurred.

Large corn stocks in Zimbabwe will enable it to continue as a small exporter during 1987/88 despite its poor 1987 harvest. Zambia also has relatively large corn stocks from exceptional harvests in 1985 and 1986. But Malawi, after relatively low harvests in 1986 and 1987, has the lowest stock level since the early 1980's.

Southern Africa's additional needs for 1987/88 are estimated at 1 million tons contrasted to 574,000 tons for 1986/87. Mozambique continues to have the most severe and widespread food shortages, and accounts for more than one-half of the needs in Southern Africa.

### *Southern Africa basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----					
Major cereals				Thousand	Kilos
1980/81	6,273	302	1,598	44,064	178
1981/82	7,853	317	1,249	45,326	178
1982/83	6,590	1,369	904	46,650	160
1983/84	5,562	1,381	1,108	48,082	158
1984/85	6,173	447	1,673	49,432	153
1985/86	8,265	729	1,099	50,876	159
1986/87	7,685	1,989	987	52,430	155
1987/88	5,925	2,538		54,045	
1988/89	6,671	2,538		55,721	

### *Southern Africa cereal use, additional food needs to support consumption, and stock adjustment*

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	9,924	11,595	1,509	203	3,257	442
1988/89	10,236	12,058	971	128	2,873	376
Stock adjustment						
1987/88			(956)	(119)	(956)	(119)
1988/89			421	52	421	52
Total						
1987/88			1,022	144	2,573	358
1988/89			1,392	181	3,294	428
Maximum absorbable						
Cereal equivalent						
1987/88			1,022	144	1,687	232
1988/89			1,392	181	2,356	301

On regional tables, cereal equivalent consumption needs plus stock adjustments do not necessarily add to the total.

## Botswana

While rainfall in Botswana was favorable during planting in October-November 1986, and plantings were slightly above the previous year, a long dry period from December to mid-March 1987 reduced cereal yields sharply for the sixth consecutive year. Cereal production, estimated at 26,000 tons for 1987, is, however, above last year, and the locust threat has been contained. Status quo import requirements for 1987/88 are estimated at 165,000 tons, the same as for 1986/87. Botswana remains dependent on imports for nearly 90 percent of its cereal consumption.

Substantial economic growth was realized in 1986 due mainly to the mining sector which now accounts for slightly over 50 percent of total GDP. The agricultural sector did not grow and its share of GDP fell below 4 percent.

Exports increased in 1986 for the fifth consecutive year, with diamonds making up about 75 percent. Botswana's commercial import capacity increased. With foreign exchange reserves exceeding \$1 billion in early 1987, and \$50 million estimated available for food imports, Botswana can cover import requirements for cereals, milk, and pulses.

### Botswana basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----								
Major cereals						Kilos		Percent
1980/81	41	0	105	140	6	162	Wheat	10.4
1981/82	50	0	101	147	4	161	Corn	28.3
1982/83	18	0	129	143	4	152	Sorghum	9.5
1983/84	15	0	167	177	5	182	Pulses	7.9
1984/85	10	0	171	174	7	175	Milk	8.3
1985/86	18	0	182	195	5	187	Total	64.3
1986/87	21	0	186	202	5	188		
1987/88	26	0						
1988/89	29	0						
Pulses								
1980/81	18	0	(2)	16	0	18		
1981/82	18	0	(2)	16	0	17		
1982/83	18	0	0	18	0	19		
1983/84	15	0	0	15	0	15		
1984/85	10	0	2	12	0	12		
1985/86	12	0	2	14	0	13		
1986/87	13	0	2	15	0	14		
1987/88	14	0						
1988/89	15	0						
Milk (whole)								
1980/81	91	0	31	122	0	135		
1981/82	91	0	33	124	0	132		
1982/83	95	0	29	124	0	128		
1983/84	94	0	27	121	0	121		
1984/85	92	0	20	112	0	108		
1985/86	93	0	29	122	0	114		
1986/87	94	0	33	127	0	115		
1987/88	94	0						
1988/89	96	0						

*Import requirements for Botswana*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	26	191	162	165	136	188
1988/89	29	198	168	169	139	192
Pulses						
1987/88	14	17	24	3	10	10
1988/89	15	18	24	3	9	10
Milk (dry equiv.)						
1987/88	8	12	13	4	5	5
1988/89	9	13	14	4	5	6

*Financial indicators for Botswana, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	545	603	13	344	532	6
1981	401	687	9	253	392	7
1982	461	580	13	293	448	8
1983	640	615	24	396	616	8
1984	678	583	33	474	645	8
1985	720	501	49	783	672	4
1986	850	585	44	1,198	806	
1987	890	670	41	1,100	1,113	7
1988	915	735	42	1,050	1,006	7

*Additional food needs to support consumption for Botswana, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent			<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Consumption					<u>1,000 tons</u>	<u>Million \$</u>
1987/88	282	50	0	0	0	0
1988/89	266	46	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0
Pulses						
1987/88	6	3	0	0	0	0
1988/89	5	3	0	0	0	0
Milk						
1987/88	18	18	0	0	0	0
1988/89	16	16	0	0	0	0
Total						
1987/88		72		0		0
1988/89		65		0		0

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## *Comoros*

Crops in the Comoros islands are recovering from the effects of a severe tropical storm early this year. The harvest of rice, cassava, and bananas is expected to be near normal. Import requirements for 1987/88 are estimated at 33,000 tons, compared to actual imports of 30,000 tons in 1986/87.

The export base of the Comoros is very narrow, comprising essentially vanilla, cloves, and ylang-ylang (perfume essence). Vanilla, alone, accounts for between one-half and two-thirds of total export receipts. Commercial import capacity is inadequate to cover import requirements, leaving additional food needs of 6,000 tons.

Comoros basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			<u>1,000 tons</u>					
Major cereals						Kilos		Percent
1980/81	3	0	18	21	0	52	Rice	32.8
1981/82	3	0	30	33	0	79	Cassava	28.8
1982/83	3	0	29	32	0	74	Bananas	6.3
1983/84	3	0	34	37	0	84	Total	67.8
1984/85	3	0	31	34	0	75		
1985/86	3	0	32	35	0	75		
1986/87	3	0	30	33	0	68		
1987/88	3	0						
1988/89	3	0						
Roots								
1980/81	68	0	0	68	0	167		
1981/82	80	0	0	80	0	191		
1982/83	70	0	0	70	0	163		
1983/84	75	0	0	75	0	169		
1984/85	73	0	0	73	0	160		
1985/86	76	0	0	76	0	162		
1985/86	78	0	0	78	0	161		
1987/88	79	0						
1988/89	83	0						

Import requirements for Comoros

Commodity/year	Production	Total use		Import requirements				
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable		
		<u>1,000 tons</u>						
Major cereals								
1987/88	3	36	38	33	35	39		
1988/89	3	37	39	34	36	40		
Roots								
1987/88	79	80	164	1	85	16		
1988/89	83	83	169	(0)	86	15		
Cereal equivalent								
1987/88	26	59	95	34	70	41		
1988/89	27	61	98	34	71	41		

Financial indicators for Comoros, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		<u>Million dollars</u>				
						Percent
1980	7	12	0	4	7	67
1981	41	49	1	6	40	25
1982	36	47	1	7	35	21
1983	38	49	2	5	36	8
1984	37	68	3	5	35	21
1985	44	61	2	5	42	4
1986	48	61	7	5	41	
1987	45	65	2	5	43	11
1988	45	70	2	5	42	11

*Additional food needs to support consumption for Comoros, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent						
Consumption						
1987/88	28	4	6	1	42	5
1988/89	29	4	5	1	42	5
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			6	1	42	5
1988/89			5	1	42	5
Maximum absorbable						
Cereal equivalent						
1987/88			6	1	12	2
1988/89			5	1	12	1

## *Lesotho*

Lesotho had good rains during the start of the summer growing season from September to November 1986 and cereal plantings were up about 12 percent from the previous year. But then, dry weather ensued until mid-February. Some damage was also caused by bollworms and hail. Therefore, the 1987 cereal harvest, estimated at 140,000 tons, is only about 6 percent above the poor 1986 crop.

Although 1987 production is up slightly, 1987/88 import requirements are estimated at 179,000 tons, slightly above the 1986/87 requirements of 160,000 reported in the February 1987 update. This is because estimates of 1987/88 consumption needs have been increased from the February update. Nutrition-based import requirements are considerably higher, estimated at 237,000 for 1987/88.

Working in South African mines continues to offer stronger incentives than crop production to able bodied Basotho. Without the foreign exchange earnings from its miners, the foreign exchange available would be much less. From 1983 to 1986, annual merchandise exports of Lesotho averaged only \$28 million, about 50 percent due to mohair and wool.

With the projected increase in miners' remittances during 1987 and 1988, Lesotho will continue to have commercial import capacity exceeding 100,000 tons, but less than previously estimated. Additional status quo cereal needs for 1987/88 are estimated at 64,000 tons. The nutrition-based additional need is much higher at 122,000 tons.

### *Lesotho basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	1,000 tons							Kilos
Major cereals								Percent
1980/81	193	0	105	274	24	223	Wheat	23.1
1981/82	171	0	137	289	19	225	Corn	41.3
1982/83	123	0	118	222	19	172	Sorghum	11.4
1983/84	122	0	120	223	19	168	Total	75.9
1984/85	130	0	149	260	19	189		
1985/86	165	0	126	277	14	192		
1986/87	132	0	170	281	21	195		
1987/88	140	0						
1988/89	148	0						

### Import requirements for Lesotho

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- <u>1,000 tons</u> -----						
Major cereals						
1987/88	140	319	377	179	237	298
1988/89	148	328	388	180	240	302

### Financial indicators for Lesotho, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- <u>Million dollars</u> -----						<u>Percent</u>
1980	360	532	5	50	355	7
1981	382	572	4	43	378	9
1982	420	561	9	48	411	8
1983	468	547	21	67	447	8
1984	413	483	21	49	392	7
1985	299	350	18	44	281	6
1986	355	430	12	60	343	
1987	390	500	18	61	373	7
1988	415	555	19	52	381	7

### Additional food needs to support consumption for Lesotho, with stock adjustment

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	115	13	64	8	122	14
1988/89	123	14	57	6	117	13
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			64	8	122	14
1988/89			57	6	117	13

### Madagascar

Madagascar's status quo import requirements for 1987/88 are estimated at 229,000 tons, a figure that appears high relative to recent import levels. In the model used for this report, historical per capita consumption levels are used in determining import requirements. In the case of Madagascar, high per capita rice consumption was attained in the early 1980's when imports far exceeded current levels. These years of high consumption were included in the base years used to calculate per capita consumption, thereby raising total consumption, and, finally, raising import requirements. Therefore, imports of this magnitude are not needed. Commercial import capacity is estimated at 165,000 tons, thus resulting in additional food needs of 64,000 tons.

Cereal production in 1987/88 is 1.6 million tons, up 3 percent from the previous year. Rice production continues to climb with a 1987/88 crop of 1.47 million tons (milled). This increase is in response to increased acreage planted and favorable weather conditions.

Agricultural policy reforms continue to be implemented. In 1986, the state marketing monopoly for rice was eliminated. This increased marketed production. Also, the retail price of rice was raised, thus increasing demand for other foods such as corn, cassava, and potatoes. Production of these crops increased as a result.

#### *Madagascar basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>						<u>Kilos</u>	<u>Percent</u>	
<b>Major cereals</b>								
1980/81	1,477	0	266	1,743	0	202	Wheat	1.9
1981/82	1,408	0	413	1,821	0	205	Rice	54.4
1982/83	1,460	0	231	1,691	0	185	Corn	3.9
1983/84	1,506	0	142	1,648	0	175	Total	60.3
1984/85	1,505	0	159	1,664	0	172		
1985/86	1,534	0	150	1,684	0	169		
1986/87	1,580	0	208	1,788	0	175		
1987/88	1,632	0						
1988/89	1,625	0						

#### *Import requirements for Madagascar*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	1,632	1,861	1,831	229	199	524
1988/89	1,625	1,915	1,875	290	250	594

#### *Financial indicators for Madagascar, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						<u>Percent</u>
1980	436	764	59	9	377	10
1981	332	511	38	27	294	30
1982	333	450	79	20	254	37
1983	307	390	86	29	221	19
1984	330	355	117	59	213	9
1985	280	336	117	62	163	16
1986	335	360	261	62	74	
1987	325	340	105	62	232	15
1988	330	350	106	62	234	15

*Additional food needs to support consumption for Madagascar, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	165	22	64	8	34	4
1988/89	174	22	116	15	76	10
Stock adjustment			0	0	0	0
1987/88			0	0	0	0
1988/89						
Total						
1987/88			64	8	34	4
1988/89			116	15	76	10

## **Malawi**

Weather conditions were again generally favorable for Malawi's cereal crops in early 1987 except for drought in the lower Shire River Valley. Corn producer price incentives have weakened since the 67-percent price increase in 1982; in 1986, prices were equivalent to only \$66 a ton. Corn production in 1986 was down to about 1.3 million tons and 1987 production is also likely to be lower. Per capita food production is estimated to have dropped for 4 years in a row. Wheat production is negligible, and 1987/88 wheat import requirements are estimated at 35,000 tons.

Malawi has been exporting white corn in recent years, but exports dropped to only about 30,000 tons during 1986/87; stocks dropped substantially at the same time. Malawi is likely to become a net grain importer for the first time since 1981/82. Given the current relatively low level of corn production and stocks, status quo cereal import requirements are estimated at 153,000 tons for 1987/88, and nutrition-based requirements are considerably higher. Increasing numbers of displaced persons from Mozambique, estimated at 250,000 in mid-1987, (not included in Malawi's population) will add to the requirements.

Malawi's external trade and payments balances weakened again in 1986. Debt service costs were high, and reserves dropped to low levels in early 1987. Commercial food import capacity is currently estimated at only \$5 million and therefore, additional status quo cereal import needs for 1987/88 are estimated at 168,000 tons, including the stock adjustment. However, Malawi, traditionally a low importer of food, will probably raise the share of available foreign exchange used for food when its food imports rise sharply. This would reduce the estimate of additional import needs.

### *Malawi basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- <u>1,000 tons</u> -----								
Major cereals								
1980/81	1,165	0	86	1,211	40	208	Wheat	0.9
1981/82	1,245	0	50	1,245	50	209	Corn	64.4
1982/83	1,415	0	(5)	1,190	60	195	Total	65.3
1983/84	1,370	160	(46)	1,254	50	197		
1984/85	1,401	180	(99)	1,260	52	192		
1985/86	1,356	170	(30)	1,294	52	191		
1986/87	1,309	150	7	1,339	52	191		
1987/88	1,316	75						
1988/89	1,391	75						

*Import requirements for Malawi*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		<u>1,000 tons</u>				
Major cereals						
1987/88	1,316	1,469	1,595	153	279	361
1988/89	1,391	1,519	1,653	128	262	340

*Financial indicators for Malawi, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		<u>Million dollars</u>				
1980	284	318	68	68	217	10
1981	288	258	89	49	199	11
1982	242	214	62	23	180	7
1983	230	198	59	15	171	8
1984	316	162	82	57	234	5
1985	258	177	76	45	182	6
1986	250	200	85	25	165	
1987	296	220	79	24	199	6
1988	325	235	87	26	219	6

*Additional food needs to support consumption for Malawi, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	30	5	123	19	249	39
1988/89	35	5	93	14	228	34
Stock adjustment						
1987/88			45	7	45	7
1988/89			32	5	32	5
Total						
1987/88			168	26	295	46
1988/89			126	19	260	39

## Mauritius

In Mauritius, cultivated land area is dedicated to sugar and vegetables. No significant amount of cereals is produced, leaving the country entirely dependent on imports. The status quo import requirement for 1987/88 is estimated at 173,000 tons. A strong export sector has resulted in an import capacity of 369,000 tons. Therefore, there are no additional food needs.

### Mauritius basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----								
Major cereals						Kilos	<u>Percent</u>	
1980/81	0	0	168	168	0	176	Wheat and flour	20.5
1981/82	0	0	162	162	0	167	Rice	27.5
1982/83	0	0	166	166	0	169	Total	48.0
1983/84	0	0	143	143	0	144		
1984/85	0	0	175	175	0	175		
1985/86	0	0	170	170	0	168		
1986/87	0	0	138	138	0	135		
1987/88	0	0						
1988/89	0	0						

### Import requirements for Mauritius

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	0	173	133	173	133	181
1988/89	0	174	134	174	134	182

### Financial indicators for Mauritius, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						
1980	430	512	34	91	396	23
1981	291	475	49	35	242	39
1982	366	394	61	38	305	26
1983	339	385	83	18	256	26
1984	397	414	75	24	322	21
1985	442	463	67	30	375	17
1986	550	525	64	30	486	
1987	630	600	118	30	508	21
1988	700	625	131	30	563	21

*Additional food needs to support consumption for Mauritius, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	369	62	0	0	0	0
1988/89	427	69	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0

## ***Mozambique***

Severe food shortages and malnutrition continue throughout the country, with agriculture and the entire economy disrupted by fighting. Currently, the most serious food problems are in Tete, Zambezia, and Sofala provinces, but shortages are also reported in many other areas. In all regions, civil strife interfered with 1987 grain planting. In addition, drought and lack of inputs reduced yields, especially in the three southern provinces. Corn production is estimated at only 225,000 tons, down from last year's poor harvest.

Mozambique's import requirements are estimated at 662,000 tons, compared with actual imports of about 500,000 tons in 1986/87. Import requirements are broken down into 140,000 tons of wheat, 180,000 tons of rice, and 260,000 tons of corn. The remainder includes small quantities of other grains and almost 50,000 tons of grain equivalent needed to make up the shortfall in root crop production. If the situation continues to deteriorate, import requirements could be even higher. However, internal distribution problems will continue to make the delivery of food supplies difficult. Nutritional needs are more than double the status quo requirement, indicating that severe malnutrition exists.

Mozambique's commercial import capacity is estimated at more than 100,000 tons due to the very high share of foreign exchange allocated to food imports. Financial data for Mozambique are unreliable, and the share of foreign exchange spent on food in the base period is probably overestimated. Little improvement is expected in earnings from exports or remittances in 1987. Mozambique's actual commercial imports are unlikely to exceed 30,000 tons.

### Mozambique basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>								<u>Kilos</u>
<b>Major cereals</b>								<u>Percent</u>
1980/81	538	0	409	947	0	78	Wheat	6.3
1981/82	605	0	365	970	0	78	Rice	6.0
1982/83	570	0	383	953	0	75	Corn	15.8
1983/84	372	0	463	835	0	64	Sorghum	5.7
1984/85	429	0	527	956	0	72	Millet	0.2
1985/86	513	0	481	994	0	73	Cassava	38.4
1986/87	486	0	505	991	0	71	Total	72.4
1987/88	433	0						
1988/89	491	0						
<b>Roots</b>								
1980/81	2,800	0	0	2,800	0	231		
1981/82	2,850	0	0	2,850	0	230		
1982/83	2,900	0	0	2,900	0	228		
1983/84	2,300	0	0	2,300	0	177		
1984/85	2,600	0	0	2,600	0	196		
1985/86	2,800	0	0	2,800	0	205		
1986/87	2,900	0	0	2,900	0	207		
1987/88	2,900	0						
1988/89	3,000	0						

### Import requirements for Mozambique

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
<u>1,000 tons</u>							
<b>Major cereals</b>							
1987/88	433	1,048	1,371	615	938	737	
1988/89	491	1,078	1,415	587	924	712	
<b>Roots</b>							
1986/87	2,900	3,016	4,593	116	1,693	434	
1987/88	3,000	3,102	4,725	102	1,725	430	
<b>Cereal equivalent</b>							
1986/87	1,596	2,258	3,213	662	1,617	893	
1987/88	1,694	2,322	3,309	628	1,615	866	

### Financial indicators for Mozambique, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>					<u>Percent</u>	
1980	448	870	91	268	357	18
1981	452	918	214	206	238	17
1982	394	971	226	71	168	29
1983	292	797	174	60	118	58
1984	210	690	94	72	116	54
1985	184	610	119	25	65	74
1986	205	749	139	25	66	
1987	210	750	119	10	53	62
1988	220	775	124	10	56	62

*Additional food needs to support consumption for Mozambique, and as constrained by maximum absorbable imports*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Consumption						
1987/88	108	16	554	83	1,509	225
1988/89	118	17	510	73	1,497	213
Stock adjustment			0	0	0	0
1987/88			0	0	0	0
1988/89						
Total			554	83	1,509	225
1987/88			510	73	1,497	213
Maximum absorbable						
Cereal equivalent						
1987/88			554	83	786	117
1988/89			510	73	748	107

## **Swaziland**

Swaziland's 1987 corn harvest is estimated at 90,000 tons which is slightly below that of 1986. Rainfall was inadequate, especially in the lowveld. Above-average rainfall late in the season, in March and April, was of marginal value for corn. In addition to corn, imports of wheat, sorghum, and some rice are normally required. Status quo import requirements for major cereals during 1987/88 are estimated at 55,000 tons, down slightly from the 1986/87 needs reported in the previous annual report. Nutrition-based requirements are lower.

Swaziland's exports recovered in 1986 due to increases in sugar, and development of new exports. International reserves were up in early 1987. Foreign exchange available for food imports during 1987/88 is estimated up to \$14 million, as the share of foreign exchange used for food imports has been revised upwards. Therefore, no additional food needs are estimated for 1987/88.

*Swaziland basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	<u>Percent</u>
Major cereals								
1980/81	99	0	53	105	47	263	Corn	50.1
1981/82	95	0	59	104	50	258	Sorghum	0.7
1982/83	53	0	69	87	35	199	Milk	4.5
1983/84	52	0	67	84	35	188	Total	55.3
1984/85	112	0	27	109	30	214		
1985/86	86	0	41	97	30	189		
1986/87	96	0	45	107	34	204		
1987/88	92	0						
1988/89	92	0						
Milk (whole)								
1980/81	37	0	6	43	0	74		
1981/82	37	0	7	44	0	74		
1982/83	37	0	4	41	0	67		
1983/84	38	0	5	43	0	68		
1984/85	38	0	5	43	0	66		
1985/86	38	0	5	43	0	64		
1986/87	39	0	5	44	0	64		
1987/88	39	0						
1988/89	40	0						

*Import requirements for Swaziland*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	92	147	139	55	47	95
1988/89	92	151	143	59	51	101
Milk (whole)						
1987/88	39	48	51	9	12	14
1988/89	40	49	52	9	12	15

*Financial indicators for Swaziland, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						<u>Percent</u>
1980	368	517	12	159	356	2
1981	388	507	16	96	372	3
1982	339	433	18	76	321	3
1983	304	465	19	93	285	3
1984	255	364	20	80	235	6
1985	175	267	23	83	152	7
1986	275	365	23	78	252	
1987	280	380	23	101	271	5
1988	295	390	24	85	267	5

*Additional food needs to support consumption for Swaziland, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	98	11	0	0	0	0
1988/89	100	11	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0
Milk						
1987/88	6	3	0	0	0	0
1988/89	6	3	0	0	0	0
Total			14	0	0	0
			14	0	0	0

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## **Zambia**

Zambia's status quo import requirements for 1987/88 are estimated at 411,000 tons. Commercial import capacity, 134,000 tons, coupled with a large stock adjustment (a 111,000-ton reduction) results in additional food needs of 166,000 tons. However, large corn stocks from the good 1986/87 harvests will most likely result in a much larger stock adjustment than that estimated in the model. Therefore, stocks will be drawn down to more normal levels and food needs will be greatly reduced. The difficult economic situation continues because of the depressed copper price and difficult policy reform decisions. Unhappy with the debt repayment conditions set by the International Monetary Fund (IMF) and the World Bank, Zambian authorities decided upon an independent economic plan. As a result, the IMF and World Bank halted loans. Also, after starting to realize some success from former IMF recommended policies, there is some question as to whether current government reforms will be followed. Last year, subsidies on some food items were eliminated, prices rose immediately, and riots ensued. After only a few days, the subsidies were reinstated.

Total cereal production in 1987/88 is estimated to have fallen from the 1986/87 harvest of more than 1 million tons. The 1987 corn harvest is estimated to have dropped 10 percent from a year earlier to 800,000 tons. This was mainly due to inadequate rainfall through most of December-February in the central and southern regions. However, large corn stocks from the good 1985/86 and 1986/87 harvests will help meet import requirements.

*Zambia basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	<u>Percent</u>
<b>Major cereals</b>								
1980/81	711	56	381	1,096	30	195	Wheat	9.3
1981/82	1,023	22	220	1,199	30	206	Rice	0.5
1982/83	752	36	248	969	40	164	Corn	57.1
1983/84	962	27	205	1,135	35	183	Total	67.0
1984/85	888	24	154	1,012	35	158		
1985/86	1,147	19	157	1,135	35	171		
1986/87	1,017	153	148	960	40	142		
1987/88	821	318						
1988/89	952	318						

*Import requirements for Zambia*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	821	1,232	1,637	411	816	683
1988/89	952	1,272	1,711	320	759	601

*Financial indicators for Zambia, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>					<u>Percent</u>	
1980	1,457	1,114	295	78	1,162	8
1981	996	1,065	294	39	702	4
1982	942	1,004	176	42	766	9
1983	923	711	123	55	800	3
1984	893	612	117	54	776	4
1985	788	513	86	200	702	3
1986	600	465	504	32	96	
1987	700	490	98	32	561	3
1988	700	500	98	32	560	3

*Additional food needs to support consumption for Zambia, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent Consumption						
1987/88	134	15	277	30	682	74
1988/89	140	15	180	19	620	65
Stock adjustment						
1987/88			(111)	(12)	(111)	(12)
1988/89			7	1	7	1
Total						
1987/88			166	18	571	62
1988/89			187	20	626	65
Maximum absorbable						
Cereal equivalent						
1987/88			166	18	438	48
1988/89			187	20	468	49

## *Zimbabwe*

Cereal production is estimated at 1.46 million tons in 1987/88, less than half the 1986/87 level. Corn production fell to 1.1 million tons as rainfall in the main growing regions was only 70 percent of normal. Also, corn area declined slightly, reflecting the government's policy of diversification into oil crops.

Due to the large drop in production, status quo import needs estimated by the model are quite high. However, stocks built up following 2 years of bumper crops will be sufficient to cover domestic demand and allow for exports.

### *Zimbabwe basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----						Kilos	Percent	
Major cereals								
1980/81	2,046	246	7	1,704	300	273	Wheat	8.8
1981/82	3,253	295	(288)	1,577	350	253	Corn	45.4
1982/83	2,196	1,333	(464)	1,521	350	238	Sorghum	2.6
1983/84	1,160	1,194	(187)	1,624	300	236	Millet	6.3
1984/85	1,695	243	379	1,467	310	210	Total	63.2
1985/86	3,442	540	(210)	1,786	300	240		
1986/87	3,041	1,686	(450)	1,772	360	237		
1987/88	1,462	2,145						
1988/89	1,940	2,145						

*Import requirements for Zimbabwe*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		<u>1,000 tons</u>				
Major cereals		1,462	2,216	2,413	754	951
1987/88	1,940	2,295	2,579	355	639	1,079
1988/89						692

*Financial indicators for Zimbabwe, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						<u>Percent</u>
1980	1,446	1,339	44	214	1,401	3
1981	1,451	1,534	70	170	1,381	1
1982	1,312	1,472	140	140	1,173	1
1983	1,154	1,070	441	75	713	5
1984	1,174	989	272	45	902	9
1985	1,133	920	326	93	807	3
1986	1,300	1,000	354	106	947	
1987	1,350	1,000	340	106	1,036	6
1988	1,350	1,050	340	106	1,032	6

*Additional food needs to support consumption for Zimbabwe, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Consumption						
1987/88	332	42	422	54	619	79
1988/89	346	42	10	1	293	36
Stock adjustment			(891)	(114)	(891)	(114)
1987/88			382	47	382	47
Total			0	0	0	0
1987/88			392	48	675	82
1988/89						

Negative additional food needs are shown as zero.

## The Middle East

Additional status quo food needs for the Middle East region total 686,000 tons for 1987/88, up 27 percent from last year's estimation. Import demand has been increasing faster than the region's productive capacity. In addition, civil strife in Lebanon and South Yemen has been responsible for much destruction and loss of productive capacity and has led to monetary and financial disorder.

Worker remittances, the largest source of foreign exchange in the two Yemens, have been declining in the last few years, due to reduction in the number of workers and their wages in the Gulf oil-producing countries. Lower transferred remittances, a decline of the services account, and lower private financial flows, have adversely affected import capacity. In addition, accelerated inflation and currency depreciation, especially in Lebanon and the Yemen Arab Republic, made grain imports more difficult to finance.

### *Middle East basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----				<u>Thousand</u>	<u>Kilos</u>
<b>Major cereals</b>					
1980/81	956	254	1,105	9,964	215
1981/82	945	170	1,323	10,135	223
1982/83	880	173	1,430	10,316	221
1983/84	488	203	1,447	10,514	192
1984/85	524	116	1,652	10,737	201
1985/86	733	131	1,710	11,001	222
1986/87	755	132	1,775	11,225	225
1987/88	769	132		11,225	
1988/89	791	132		11,454	

### *Middle East cereal use, additional food needs to support consumption, and stock adjustment*

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
<b>Cereal equivalent</b>	<u>1,000 tons</u>	<u>1,000 tons</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
<b>Consumption</b>						
1987/88	2,475	2,269	686	100	481	69
1988/89	2,524	2,316	623	86	415	56
<b>Stock adjustment</b>						
1987/88			57	9	57	9
1988/89			14	2	14	2
<b>Total</b>						
1987/88			743	109	538	78
1988/89			637	88	429	59

## Lebanon

Lebanon's status quo cereal import requirements in 1987/88 are estimated at 585,000 tons, and nutrition-based requirements are 532,000 tons. In 1986, crop production was restructured toward high-valued crops such as fruits and vegetables, which resulted in increasing dependence on imported food grains. Lebanon's total grain imports averaged 590,000 tons in the last 3 years.

The currency continues to depreciate against the dollar from LL5.4 in 1984, to LL142.4 in July 1987, while the inflation rate is about double the 1985 level of 75 percent. Three factors have contributed to the increasing inflation: money supply growth, lower real economic growth, and the expectation of higher inflation.

Lebanon's foreign exchange reserves have fluctuated widely from \$2.6 billion in 1982 to \$652 million in 1984, and from \$1.1 billion in 1985 to \$462 million at the end of 1986. This reflects a policy of government intervention to support the value of the Lebanese pound, government financing of imports (including arms), and reduced transfer payments.

Commercial grain import capacity is estimated at 262,000 tons, which results in an additional status quo food aid need of 323,000 tons, about double last year's level.

### Lebanon basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	
Major cereals							<u>Percent</u>	
1980/81	44	94	482	416	169	221	Wheat	36.2
1981/82	33	35	546	348	214	214	Rice	3.3
1982/83	29	52	569	396	197	227	Corn	0.3
1983/84	29	57	587	412	210	239	Barley	0.0
1984/85	24	51	590	402	207	234	Total	39.9
1985/86	24	56	605	433	200	240		
1986/87	17	52	573	382	208	221		
1987/88	17	52						
1988/89	17	52						

### Import requirements for Lebanon

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	17	602	549	585	532	666
1988/89	17	609	556	592	539	673

*Financial indicators for Lebanon, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- Million dollars -----						
1980	3,851	3,184	13	1,588	3,839	5
1981	3,711	3,022	52	1,516	3,659	5
1982	3,269	3,909	65	2,608	3,204	5
1983	2,372	2,780	53	1,903	2,319	6
1984	1,940	2,600	53	672	1,887	8
1985	1,537	1,850	54	1,074	1,483	11
1986	1,250	2,040	28	488	1,222	
1987	1,150	1,900	30	470	742	9
1988	1,100	1,800	29	450	718	9

*Additional food needs to support consumption for Lebanon, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	262	35	323	43	270	36
1988/89	265	33	327	41	274	35
Stock adjustment						
1987/88			13	2	13	2
1988/89			1	0	1	0
Total						
1987/88			336	44	283	37
1988/89			328	41	275	35

## **North Yemen**

The Yemen Arab Republic (YAR) requires an estimated 843,000 tons of grain imports in 1987/88 to maintain status quo consumption levels. Nutrition-based import requirements are estimated at 686,000 tons. The estimate of commercial grain import capacity is 485,000 tons, which leaves an additional status quo need of 358,000 tons.

Remittances, YAR's largest source of foreign exchange, declined 25 percent in 1986 to \$600 million, causing severe foreign exchange shortages. Remittances peaked at \$1.2 billion in 1982-83, contributing 33 percent to the GDP. But in 1986, remittances contributed only 19 percent due to reductions in the number of workers and their wages.

In 1986, despite substantial improvement in the balance of payments, government efforts to control the volume of imports and foreign exchange shortages contributed to accelerated inflation and further pressure on the exchange rate. Inflation rose to 37 percent, from 27 percent in 1985, due to the increasing money supply growth and rising import prices. The Yemeni Riyal depreciated 19.5 percent to YR8.98 per dollar in December 1986. All these factors made grain imports more difficult to finance.

*North Yemen basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>								<u>Kilos</u>
Major cereals								<u>Percent</u>
1980/81	798	130	401	1,204	45	231	Wheat	23.7
1981/82	810	80	541	1,305	45	244	Rice	1.7
1982/83	759	81	603	1,298	45	236	Corn	4.9
1983/84	363	100	640	1,041	27	183	Barley	3.6
1984/85	399	35	770	1,104	55	194	Sorghum	33.3
1985/86	601	45	838	1,379	55	233	Total	67.2
1986/87	630	50	827	1,403	54	232		
1987/88	642	50						
1988/89	661	50						

*Import requirements for North Yemen*

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition- based	Status quo	Nutrition- based	Maximum absorbable	
<u>1,000 tons</u>							
Major cereals							
1987/88	642	1,485	1,328	843	686	971	
1988/89	661	1,516	1,356	855	695	984	

*Financial indicators for North Yemen, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						<u>Percent</u>
1980	1,245	2,253	21	1,283	1,223	13
1981	1,083	2,151	64	962	1,020	20
1982	1,361	2,382	55	554	1,305	15
1983	1,251	2,246	43	366	1,208	14
1984	1,100	1,869	67	319	1,033	18
1985	930	1,692	126	297	804	24
1986	614	1,250	42	297	572	
1987	650	1,350	44	297	658	19
1988	750	1,400	51	297	743	19

*Additional food needs to support consumption for North Yemen, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	485	76	358	56	201	32
1988/89	572	86	284	43	124	19
Stock adjustment						
1987/88			35	5	35	5
1988/89			2	0	2	0
Total						
1987/88			393	62	236	37
1988/89			285	43	125	19

## *South Yemen*

The country's 1987/88 status quo cereal import requirements are assessed at 278,000 tons, while nutrition-based requirements are assessed at 283,000 tons. Based on a commercial import capacity of 273,000 tons, status quo additional needs are 5,000 tons.

In 1986, exports and other credits decreased, due mainly to lower remittances, decline of the services account, and lower private financial flows. However, imports declined relatively more to \$591 million from \$700 million in 1985 due mainly to decreasing international prices of oil, which led to improvement in South Yemen's trade balance.

### *South Yemen basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	Percent
Major cereals								
1980/81	114	30	222	300	11	162	Wheat	31.6
1981/82	102	55	236	340	13	179	Rice	11.3
1982/83	92	40	258	331	13	170	Corn	3.8
1983/84	96	46	220	318	14	159	Barley	0.0
1984/85	101	30	292	379	14	183	Sorghum	0.4
1985/86	108	30	267	361	14	170	Millet	13.2
1986/87	108	30	375	468	15	212	Total	60.3
1987/88	110	30						
1988/89	113	30						

### *Import requirements for South Yemen*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	110	388	393	278	283	398
1988/89	113	399	404	286	291	409

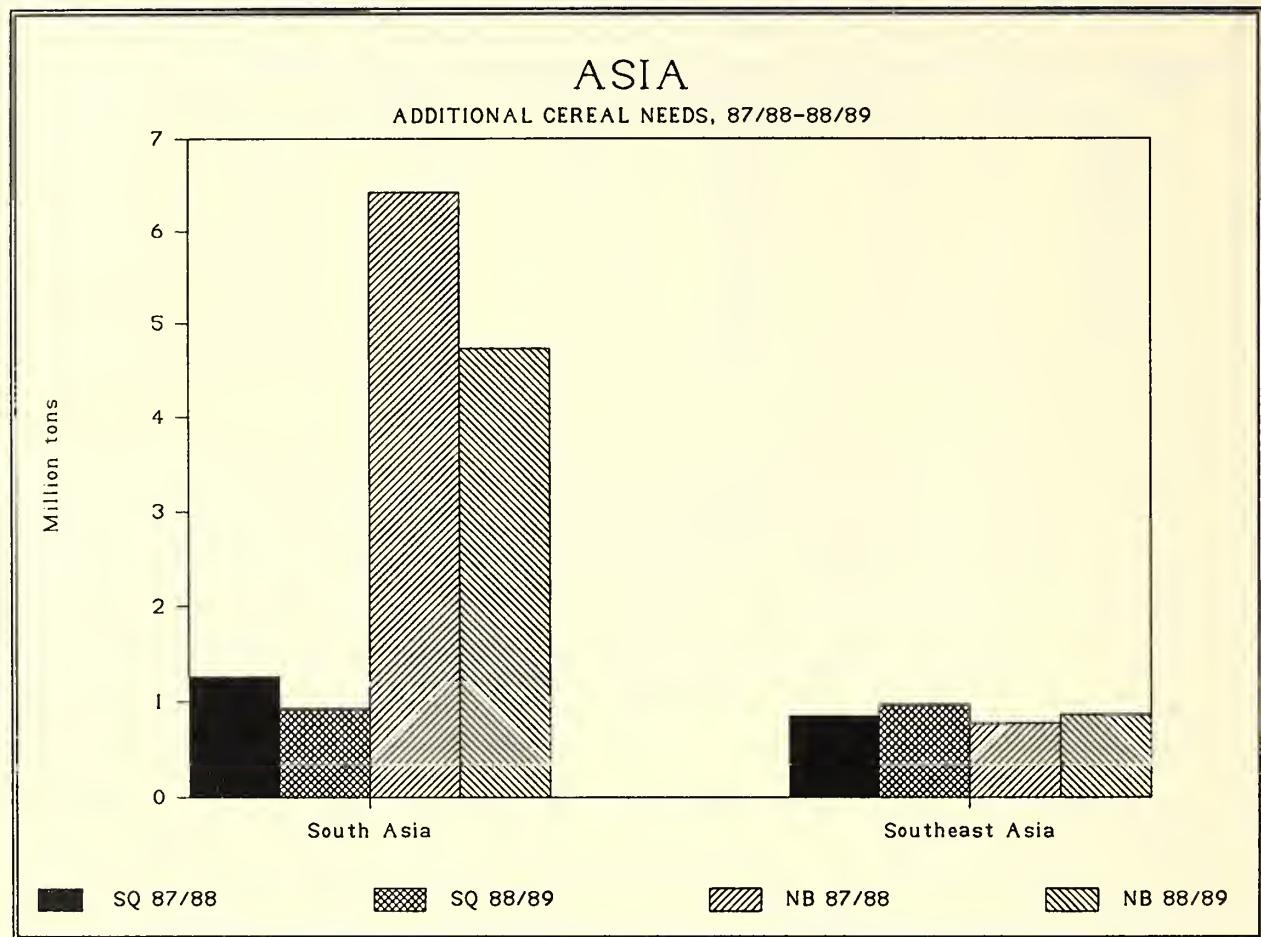
*Financial indicators for South Yemen, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	<u>Million dollars</u>					
1980	504	843	9	234	495	18
1981	572	890	19	255	554	19
1982	631	973	20	286	611	17
1983	626	979	25	282	602	13
1984	652	1,037	35	249	617	16
1985	577	951	114	197	463	26
1986	517	861	21	190	496	
1987	497	890	40	195	438	18
1988	485	940	39	200	420	18

*Additional food needs to support consumption for South Yemen, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	273	51	5	1	10	2
1988/89	273	49	13	2	18	3
Stock adjustment						
1987/88			9	2	9	2
1988/89			11	2	11	2
Total						
1987/88			14	3	19	4
1988/89			24	4	29	5

## Asia



### South Asia

South Asian cereal production is forecast to rise about 3 percent in 1987/88 if monsoon rainfall during July-September is near normal. Larger harvests are forecast in Afghanistan, Bangladesh, India, Nepal, and Pakistan. A decline in production is forecast in Sri Lanka, where poor weather has damaged the rice crop and a 10-percent drop in cereal output is expected. Stocks of cereals in both India and Pakistan are well in excess of food security needs, effectively eliminating the possibility of cereal import requirements over the next few years. Cereal stocks are also relatively high in Bangladesh and Sri Lanka, but stocks in Bangladesh remain substantially below the official target, and civil unrest has increased Sri Lanka's need for contingency stocks.

Larger harvests of oilseeds are expected throughout the region in 1987/88. Normal rainfall should lead to a rebound in Indian output of oilseeds and oils after consecutive years of dry weather, while prospects for another record Pakistani cotton crop indicates larger production of edible oils. Average rainfall is also expected to result in somewhat larger harvests of pulses in India and Pakistan, continuing modest upward trends in production in both countries.

The region's status quo cereal import needs in 1987/88 are estimated at 3.3 million tons, with Bangladesh, Sri Lanka, and Afghanistan accounting for the bulk of the total. Nutrition-based import needs are estimated to total 16 million tons, with India and Bangladesh accounting for the bulk of the total and Bangladesh and Nepal having the most severe nutritional gaps. Although the estimates indicate that about 13.3 million tons of the region's nutrition-based needs could be absorbed, this is likely a substantial overestimate because large stock surpluses in India and Pakistan suggest that the absorptive capacity of these countries is negligible. Status quo estimates of edible oil import needs add up to nearly 2.0 million tons for the region, with India and Pakistan accounting for the bulk. Pulse import needs, confined to India, are estimated at nearly 400,000 tons according to the status quo estimates. For both edible oils and pulses, the status quo estimates are probably more reliable than the lower nutrition-based estimates because they more accurately reflect recent gains in consumption.

The capacity of South Asian countries to import food commercially will continue to be constrained by weak export performance, sluggish or declining remittances from overseas workers, and rising debt obligations during 1987 and 1988. However, all countries in the region will benefit from lower import costs for cereals and edible oils, a factor that will increase quantities that can be imported with a given amount of foreign exchange. Bangladesh and Sri Lanka appear to face the most precarious balance of payments positions. In the case of Bangladesh, commercial import capacity might be better assessed at a level substantially lower than indicated in the standard calculations because of the continued adverse affects of large commercial cereal imports in 1984/85 on the balance of payments. In Sri Lanka, rising debt service obligations now threaten the balance of payments and may argue for additional commodity assistance.

Status quo additional cereal needs in the region are estimated at about 1.3 million tons in 1987/88, but may be better assessed at about 1.6 million tons by using an alternative estimate of Bangladesh's commercial import capacity. Maximum absorbable nutrition-based additional needs are assessed at 3.5 million tons, but may be better assessed at about 2.1 million tons if Pakistan and India are assumed to have no absorptive capacity and Bangladesh's commercial import capacity is based on an alternative estimate. Additional food needs in the form of edible oils and pulses in the region in 1987/88 are estimated at zero, in large part because of the outlook for continued low import prices for vegetable oils.

Production and balance of payments projections for 1988/89 indicate a decline in both status quo and nutrition-based estimates of additional cereal needs, with additional edible oil and pulse needs remaining at zero. In the projections, Bangladesh and Afghanistan account for the bulk of status quo additional needs, and Bangladesh and Nepal continue to have the most severe nutritional gaps.

#### *South Asia basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----				Thousand	Kilos
<b>Major cereals</b>					
1980/81	151,832	20,032	399	906,091	170
1981/82	159,740	17,926	3,158	926,031	174
1982/83	151,409	19,822	5,788	947,382	164
1983/84	178,294	21,280	5,050	969,559	182
1984/85	175,437	28,642	3,423	991,723	175
1985/86	175,052	33,551	2,144	1,013,376	176
1986/87	178,394	32,896	1,799	1,035,542	174
1987/88	183,625	33,195		1,058,007	
1988/89	189,755	33,195		1,080,714	

*South Asia cereal use, additional food needs to support consumption, and stock adjustment*

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>1,000 tons</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent Consumption						
1987/88	185,169	199,889	1,309	196	6,035	990
1988/89	189,207	204,476	906	137	4,707	732
Stock adjustment						
1987/88			(45)	(5)	390	72
1988/89			25	4	25	4
Total						
1987/88			1,265	191	6,425	1,062
1988/89			931	140	4,732	736
Maximum absorbable						
Cereal equivalent						
1987/88			1,265	191	3,511	580
1988/89			931	140	1,987	305

## *Afghanistan*

There has been no new information on the food and agricultural situation in Afghanistan since that reported in the Fall Update. Those data indicated that, although food grain production dropped in 1986/87 because of poor weather, production generally has been stable at levels somewhat below what was achieved prior to the Soviet incursion in late 1979. Based on this information, and assuming average weather, food grain production is forecast to recover to about 3.8 million tons in 1987/88. This level of production suggests a continuation of the downward trend in per capita production since 1979 implied by stagnant production and some growth in population.

Status quo cereal import requirements are estimated at 513,000 tons in 1987/88 and the nutrition-based estimate is only slightly higher at 550,000 tons. However, because of the limited amounts and questionable quality of information available on Afghanistan's agriculture, these estimates could significantly misrepresent the actual food situation in the country. A USAID study, completed too late for consideration in the preparation of this report, indicates substantially smaller additional food needs for Afghanistan.

Balance of payments forecasts indicate little improvement in Afghanistan's apparently limited capacity to import food commercially. Economic disruptions stemming from warfare in and near the country have contributed to virtually stagnant exports, and little improvement is anticipated in the forecasts. Commercial food grain import capacity in 1987/88 is estimated at about 94,000 tons (\$15 million), leaving about 419,000 tons of status quo additional needs and 456,000 tons of additional nutrition-based needs.

*Afghanistan basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>								<u>Kilos</u>
<b>Major cereals</b>								<u>Percent</u>
1980/81	3,847	0	334	4,181	0	274	Wheat	49.7
1981/82	3,957	0	250	4,207	0	287	Rice	7.3
1982/83	3,967	0	276	4,243	0	299	Corn	14.6
1983/84	4,045	0	181	4,226	0	298	Total	71.7
1984/85	3,969	0	183	4,152	0	287		
1985/86	3,961	0	160	4,121	0	279		
1986/87	3,745	0	210	3,955	0	263		
1987/88	3,825	0						
1988/89	3,775	0						

*Import requirements for Afghanistan*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	3,825	4,338	4,375	513	550	767
1988/89	3,775	4,429	4,440	654	665	914

*Financial indicators for Afghanistan, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						<u>Percent</u>
1980	705	889	53	341	652	1
1981	883	1,031	118	281	765	4
1982	744	974	134	238	610	4
1983	629	925	120	206	509	5
1984	648	1,315	126	243	522	4
1985	628	1,059	76	307	552	4
1986	630	1,200	86	300	544	
1987	650	1,250	91	290	556	4
1988	670	1,300	95	270	540	4

*Additional food needs to support consumption for Afghanistan*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent			1,000 tons	Million \$	1,000 tons	Million \$
Consumption						
1987/88	94	15	419	67	456	73
1988/89	96	15	559	86	569	87
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			419	67	456	73
1988/89			559	86	569	87

## **Bangladesh**

Cereal production is forecast at a record 17.4 million tons in 1987/88, about 5 percent above the 1986/87 outturn, assuming average monsoon rainfall during July-September 1987. Rice production is forecast at a record 16 million tons, up 3.5 percent, based on average weather for the main fall harvest and further gains in area and yield for the irrigated winter crop. More normal winter weather is also expected to lead to a recovery in wheat production to around 1.4 million tons following consecutive below-trend harvests. Government stocks of wheat and rice totaled 979,000 tons in July 1987, about the same as a year earlier, and higher than average during the early 1980's. However, stocks remain substantially below the Government's food security target of about 1.2 million tons. During 1986/87, stocks were buoyed by cereal imports totaling 1.9 million tons, including about 1.4 million tons of concessional imports. Oilseed and edible oil output is projected to rise in 1987/88, assuming average weather for the rapeseed crop, but domestic production now accounts for only 20-25 percent of edible oil use.

Status quo cereal import requirements are calculated at nearly 1.9 million tons in 1987/88, while nutrition-based needs are estimated at nearly 5.1 million tons. The disparity between the two estimates indicates a broad nutritional gap, with recently achieved levels of consumption providing only about 86 percent of the FAO/WHO recommended minimum caloric standard. However, the rough estimates provided in this report suggest that only about 2.8 million tons of cereal imports could be absorbed by the domestic marketing and storage infrastructure. Cereal import needs for stockbuilding are estimated at 43,000 tons in 1987/88, but this would still leave government stocks nearly 200,000 tons below the food security target. Edible oil import needs are estimated at about 150,000 tons according to both the status quo and nutrition-based calculations.

Bangladesh's narrow, jute-oriented export base and chronically large trade deficit will continue to constrain commercial imports and necessitate dependence on aid during the late 1980's. Although modest gains in exports are forecast, they hinge on an uncertain outlook for jute goods and success in expanding nontraditional exports. And, although the recent growth in debt service obligations, stemming in large part from commercial food grain purchases, is likely to slow, there is a high degree of uncertainty over future flows in remittances. Remittances from the Middle East grew rapidly into a key source of foreign exchange in the early 1980's, but have shown signs of slowing, and possibly declining, in recent years.

The standard commercial import capacity estimation indicates a 1987/88 cereal import capacity of about 960,000 tons (\$147 million), resulting in status quo additional needs of about 550,000 tons (including stockbuilding) and maximum absorbable nutrition-based additional needs of about 1.5 million tons. However, the standard commercial import capacity estimation procedure probably overstates Bangladesh's ability to import food commercially, because it factors in the Government's abnormally large outlays for commercial imports in 1984/85. Payments on commercial debt incurred in those purchases continue to act as a major strain on the balance of payments.

Commercial import capacity may be more realistically assessed by excluding the abnormal 1984/85 year from the calculation, yielding a lower cereal import capacity of about 620,000 tons (\$95 million) in 1987/88. Using this alternative commercial import capacity calculation, status quo additional cereal needs including stockbuilding are estimated at about 890,000 tons, and maximum absorbable nutrition-based additional needs at 1.8 million tons. Additional food needs in the form of edible oils are estimated at zero in 1987/88 according to both approaches, in large part because falling import prices are likely to increase the quantities that can be purchased commercially.

*Bangladesh basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----								Kilos
Major cereals								Percent
1980/81	14,975	787	1,077	15,587	0	177	Wheat	8.8
1981/82	14,598	1,252	1,235	16,470	0	182	Rice	76.3
1982/83	15,311	615	1,817	17,117	0	183	Vegetable oils	2.2
1983/84	15,710	626	2,056	17,592	0	183	Total	87.3
1984/85	16,084	800	2,588	18,455	0	188		
1985/86	16,082	1,017	1,203	17,326	0	172		
1986/87	16,546	976	1,900	18,443	0	178		
1987/88	17,400	979						
1988/89	17,900	979						
Vegetable oils								
1980/81	56	18	125	146	0	2		
1981/82	54	53	133	189	0	2		
1982/83	55	51	116	159	0	2		
1983/84	57	63	133	174	0	2		
1984/85	57	79	206	209	0	2		
1985/86	56	133	280	317	0	3		
1986/87	54	152	150	245	0	2		
1987/88	59	111						
1988/89	60	111						

*Import requirements for Bangladesh*

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
----- 1,000 tons -----							
Major cereals							
1987/88	17,400	19,262	22,474	1,862	5,074	2,774	
1988/89	17,900	19,734	23,032	1,834	5,132	2,762	
Vegetable oils							
1987/88	59	212	210	153	151	315	
1988/89	60	218	215	158	155	323	

*Financial indicators for Bangladesh, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	1,364	2,795	269	249	1,095	24
1981	1,298	2,818	214	122	1,084	11
1982	1,545	2,589	263	358	1,282	16
1983	1,717	2,665	280	539	1,437	16
1984	1,697	3,011	414	395	1,283	33
1985	1,666	2,741	467	475	1,199	14
1986	1,740	2,880	538	618	1,202	
1987	1,885	3,065	500	650	1,485	21
1988	2,020	3,300	550	675	1,553	21

*Additional food needs to support consumption for Bangladesh, with stock adjustment and as constrained by maximum absorbable imports*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Cereal equivalent</b>						
Consumption						
1987/88	961	147	507	78	3,714	568
1988/89	1,050	154	347	51	3,638	532
<b>Stock adjustment</b>						
1987/88			43	7	43	7
1988/89			25	4	25	4
<b>Total</b>						
1987/88			551	84	3,757	575
1988/89			372	54	3,663	536
<b>Vegetable oils</b>						
1987/88	338	110	0	0	0	0
1988/89	354	115	0	0	0	0
<b>Total</b>						
1987/88		257		84		575
1988/89		269		54		536
<b>Maximum absorbable</b>						
<b>Cereal equivalent</b>						
1987/88			551	84	1,457	223
1988/89			372	54	1,293	189
<b>Vegetable oils</b>						
1987/88			0	0	0	0
1988/89			0	0	0	0
<b>Total</b>						
1987/88				84		223
1988/89				54		189

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## India

Cereal production is forecast to rise about 3 percent to a record in 1987/88 assuming normal rainfall, particularly in coarse grain producing areas that have had 3 consecutive years of dry weather. The 1987 wheat harvest is estimated at 47 million tons, up marginally from 1986 despite rain damage during harvest. The 1987/88 rice and coarse grain crops have been planted under near-normal early monsoon rainfall. Government stocks of wheat and rice remain well above target, despite little growth in cereal production since the large record harvest in 1983/84, substantial expansion of subsidized distribution programs, and some exports. As of July 1987, official wheat and rice stocks totaled about 27.2 million tons, compared with the target of 21 million and capacity for covered storage of 18-20 million.

Harvests of oilseeds, particularly peanuts, are forecast to rise in 1987/88 on the assumption of normal rainfall in key rainfed producing areas that have had dry weather during the last 2 years. Output of edible oils is expected to be up about 7 percent and, because of strong domestic producer price incentives, could be up substantially more if weather is normal. Pulse production has shown some growth in recent years because of price incentives and government promotion efforts, and the 1987/88 harvest is estimated at a record 13 million tons.

Status quo cereal import needs continue to be estimated at zero for 1987/88, while nutrition-based requirements are estimated at 8.6 million tons and reflect a substantial nutritional gap. The standard stock adjustment calculation indicates import needs for stockbuilding, but does not account for the official stock target or storage capacity. With official stocks well above target despite expanded subsidized and targeted distribution programs, capacity to absorb additional cereal imports is negligible. The status quo edible oil import need estimate is 1.2 million tons and may be a more reliable measure than the lower nutrition-based estimate because it better accounts for recent gains in consumption. Also, because of recent gains in consumption, the status quo pulse import need calculation of 364,000 tons in 1987/88 may more accurately reflect needs than the lower nutrition-based estimate.

Balance of payments developments continue to be a key area of concern for Indian policymakers. Sluggish growth in exports and remittances, coupled with further growth in imports because of import liberalization and higher oil prices, will likely prevent any significant decline in the current account deficit in 1987 or 1988. Debt service obligations will show further large increases over the next few years, reflecting large scheduled IMF repayments and rising commercial debt. Despite these developments, foreign exchange availability is projected to be adequate to cover India's proportionately small food import needs in 1987/88 and 1988/89. The status quo estimates indicate no additional food needs in either 1987/88 or 1988/89. The nutrition-based additional cereal needs indicated for 1987/88 are probably not consistent with absorptive capacity because of the large official stock surplus.

*India basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			<u>1,000 tons</u>				<u>Kilos</u>	
Major cereals								
1980/81	113,810	17,743	(835)	113,126	2,320	168	Wheat	18.5
1981/82	120,949	15,272	1,546	118,347	2,420	172	Rice	33.2
1982/83	112,446	17,000	3,477	112,409	2,420	160	Corn	3.1
1983/84	136,831	18,094	3,085	130,656	2,620	182	Sorghum	5.8
1984/85	135,261	24,734	(161)	127,317	2,620	173	Millet	5.2
1985/86	134,294	29,897	(605)	132,165	2,710	176	Barley	0.7
1986/87	134,837	28,711	(505)	132,483	2,860	173	Pulses	5.8
1987/88	138,800	27,700					Vegetable oil	
1988/89	143,400	27,700					Total	6.3
								78.7
Vegetable oils								
1980/81	2,668	180	1,293	3,981	0	6		
1981/82	3,392	160	962	4,434	0	6		
1982/83	2,974	80	1,259	4,163	0	6		
1983/84	3,376	150	1,697	4,833	0	7		
1984/85	3,775	390	1,377	5,182	0	7		
1985/86	3,370	360	1,185	4,625	0	6		
1986/87	3,474	290	1,325	4,819	0	6		
1987/88	3,720	270						
1988/89	3,950	270						
Pulses								
1980/81	8,572	0	173	8,595	150	13		
1981/82	10,627	0	128	10,605	150	15		
1982/83	11,507	0	150	11,507	150	16		
1983/84	11,857	0	300	12,057	100	17		
1984/85	12,893	0	200	12,993	100	17		
1985/86	11,962	0	300	12,212	50	16		
1986/87	12,963	0	300	13,213	50	17		
1987/88	13,000	0						
1988/89	13,500	0						

*Import requirements for India*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		<u>1,000 tons</u>				
Major cereals						
1987/88	138,800	137,469	147,354	(1,331)	8,554	8,302
1988/89	143,400	140,301	150,599	(3,099)	7,199	6,687
Vegetable oils						
1987/88	3,720	4,925	4,727	1,205	1,007	1,912
1988/89	3,950	5,026	4,832	1,076	882	1,795
Pulses						
1987/88	13,000	13,364	13,014	364	14	1,773
1988/89	13,500	13,640	13,307	140	(193)	1,577

*Financial indicators for India, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	12,295	17,407	1,292	6,858	11,003	6
1981	12,086	17,028	1,377	4,461	10,709	8
1982	11,730	16,269	1,756	4,965	9,974	8
1983	12,317	16,525	2,103	5,847	10,214	14
1984	12,628	16,903	2,140	6,110	10,488	17
1985	13,709	18,921	2,440	6,657	11,269	9
1986	15,900	19,700	2,900	6,600	13,000	
1987	17,200	21,300	3,300	6,700	13,146	14
1988	19,100	23,200	3,600	7,000	14,381	14

*Additional food needs to support consumption for India, with stock adjustment and as constrained by maximum absorbable imports*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>Cereal equivalent</u>						
Consumption						
1987/88	2,973	530	0	0	1,075	192
1988/89	3,400	580	0	0	0	0
Stock adjustment						
1987/88			0	0	435	78
1988/89			0	0	0	0
Total						
1987/88			0	0	1,510	269
1988/89			0	0	0	0
<u>Vegetable oils</u>						
1987/88	3,008	1,075	0	0	0	0
1988/89	3,291	1,176	0	0	0	0
<u>Pulses</u>						
1987/88	238	95	0	0	0	0
1988/89	261	104	0	0	0	0
Total						
1987/88		1,700		0		269
1988/89		1,859		0	0	0
<u>Maximum absorbable</u>						
<u>Cereal equivalent</u>						
1987/88			0	0	1,259	225
1988/89			0	0	0	0
<u>Vegetable oils</u>						
1987/88			0	0	0	0
1988/89			0	0	0	0
<u>Pulses</u>						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88				0		225
1988/89				0	0	0

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## Nepal

Nepal suffers from a poor distribution of supply and effective demand. Most cereal production occurs in the Tarai (plains), where rice is the staple. However, a majority of the population lives in the hills, where corn is the main staple. Moreover, hill incomes are too low, and the transport costs too high, to allow Tarai grain to make up for the hills' food deficit. Per capita disappearance has shown no upward trend from a level well below the FAO recommended minimum.

Rice supplies half the calories in the Nepali diet, and the rice crop was hit hardest by the 1986/87 drought in the Tarai. The 1987 rice crop is expected to be 1.9 million tons, assuming a normal monsoon, up from 1.6 million tons the previous year. The corn and wheat crops are also expected to be normal.

With a return to normal weather, status quo calculations indicate no additional food need for 1987/88, down from 214,000 tons in 1986/87. Nutrition-based estimates, reflecting the large gap between status quo per capita consumption and the FAO recommended minimum, put import needs at about 500,000 tons, down from about 700,000 tons.

Nepal's financial situation is extremely weak. Most of its merchandise exports go to India, earning no convertible currency, and its trade balance is typically in deficit. Virtually all imports of food grains would have to be on a highly concessional basis. Even so, Nepal could not absorb more than 200,000 tons of grain. The country's landlocked position, limited road network and lack of railroads, and weak local administration make delivering and distributing food aid a very difficult proposition. Food assistance to Nepal in 1986/87 was modest for these reasons.

### Nepal basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	Percent
Major cereals								
1980/81	2,824	0	(26)	2,798	0	187	Wheat	10.9
1981/82	2,934	0	(42)	2,892	0	188	Rice	49.5
1982/83	2,465	0	83	2,548	0	162	Corn	19.6
1983/84	3,254	0	(16)	3,238	0	200	Total	80.0
1984/85	3,258	0	(49)	3,209	0	194		
1985/86	3,275	0	(25)	3,250	0	191		
1986/87	3,033	0	25	3,058	0	176		
1987/88	3,410	0						
1988/89	3,510	0						

### Import requirements for Nepal

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	3,410	3,341	3,938	(69)	528	166
1988/89	3,510	3,425	4,041	(85)	531	155

*Financial indicators for Nepal, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	293	446	4	196	289	3
1981	278	451	5	233	273	3
1982	250	522	7	163	243	10
1983	275	502	12	123	263	5
1984	302	524	17	68	285	2
1985	328	591	24	104	304	1
1986	363	639	21	95	342	
1987	405	774	28	102	345	3
1988	447	860	42	107	363	3

*Additional food needs to support consumption for Nepal, with stock adjustment and as constrained by maximum absorbable imports*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>Cereal equivalent</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Consumption						
1987/88	28	7	0	0	500	118
1988/89	31	7	0	0	499	112
<u>Stock adjustment</u>						
1987/88			0	0	0	0
1988/89			0	0	0	0
<u>Total</u>						
1987/88			0	0	500	118
1988/89			0	0	499	112
<u>Maximum absorbable</u>						
<u>Cereal equivalent</u>						
1987/88			0	0	138	32
1988/89			0	0	124	28

## **Pakistan**

Little growth is forecast in Pakistan's cereal harvest in 1987/88 following the large record outturn in 1986/87. The 1987 wheat crop is estimated at 14 million tons, about matching the previous year's record, with rain damage near harvest likely to prevent another substantial production increase. Rice production in 1987/88 is forecast to match the 1986/87 record and corn output is expected to be up marginally, assuming normal weather during the July-September rainy season. Large concessional imports following the poor wheat crops in 1984 and 1985, combined with procurement from the bumper 1986 crop, have boosted wheat stocks to a record of about 3.9 million tons. Stocks are well above distribution and food security requirements, particularly in view of the Government's reduced involvement in subsidized distribution programs.

Production of oilseeds, primarily cottonseed, is forecast to rise in 1987/88 because of the prospects for another record cotton crop. However, domestic production now accounts for only about 30 percent of rapidly expanding demand for edible oils, and there is increasing dependence on imported supplies. Pulse output has shown some responsiveness to production incentives in recent years and is forecast to increase further in 1987/88.

Status quo cereal import needs are estimated at zero in 1987/88 as a result of the bumper wheat harvest. Nutrition-based import needs of about 430,000 tons indicate a relatively small nutritional gap. Although standard calculation procedures indicate further stockbuilding needs, they do not account for the current stock surplus. With official stocks now well above target, capacity to absorb cereal imports for consumption or stocks is negligible. The status quo estimate of oil import requirements is 620,000 tons in 1987/88, and is likely a more realistic indicator of import needs than the lower nutrition-based estimate that does not account for recent growth in consumption. Similarly, status quo pulse import needs are estimated to be higher than nutrition-based needs because of recent increases in domestic supplies.

Sustained high exports of cotton, cotton yarn, and rice are expected to help stabilize Pakistan's trade deficit and balance of payments over the next several years. However, foreign exchange availabilities with which to finance imports will remain very tight because of the weak performance of nontraditional exports, declining remittances, and rising foreign debt obligations. Remittances, primarily from Pakistanis employed in the Middle East, grew rapidly and became a critical source of balance of payments support in the late 1970's and early 1980's, but have now begun to decline.

Despite the tight balance of payments outlook, forecasts indicate that Pakistan will have sufficient capacity to purchase all status quo and nutrition-based import requirements on commercial terms in 1987/88 and 1988/89. Key factors in this outlook are the current domestic surplus of wheat and the expectation of continued low import costs for edible oils.

*Pakistan basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----								
Major cereals							Kilos	Percent
1980/81	14,926	1,248	(843)	13,997	130	166	Wheat	47.2
1981/82	15,833	1,204	(494)	14,394	130	164	Rice	10.5
1982/83	15,754	2,019	(654)	14,636	140	162	Corn	3.3
1983/84	16,766	2,343	(984)	15,183	150	163	Vegetable oils	7.7
1984/85	15,225	2,792	157	15,580	160	163	Pulses	2.2
1985/86	15,631	2,434	535	15,540	170	158	Total	70.9
1986/87	18,468	2,890	(726)	16,320	180	162		
1987/88	18,600	4,132						
1988/89	19,270	4,132						
Vegetable oils								
1980/81	225	75	455	693	0	8		
1981/82	240	62	573	808	0	9		
1982/83	256	67	663	917	0	10		
1983/84	190	69	630	812	0	9		
1984/85	289	77	680	971	0	10		
1985/86	344	75	1,007	1,066	0	11		
1986/87	364	360	560	1,139	0	11		
1987/88	368	145						
1988/89	375	145						
Pulses								
1980/81	526	0	0	496	30	6		
1981/82	488	0	40	478	50	6		
1982/83	694	0	50	692	52	8		
1983/84	710	0	65	725	50	8		
1984/85	726	0	42	718	50	8		
1985/86	732	0	61	743	50	8		
1986/87	803	0	50	803	50	8		
1987/88	820	0						
1988/89	840	0						

*Import requirements for Pakistan*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	18,600	17,945	19,027	(655)	427	183
1988/89	19,270	18,470	19,588	(800)	318	60
Vegetable oils						
1987/88	368	988	811	620	443	1,016
1988/89	375	1,014	832	639	457	1,039
Pulses						
1987/88	820	844	780	24	(40)	55
1988/89	840	866	800	26	(40)	58

*Financial indicators for Pakistan, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	5,799	6,824	743	1,058	5,056	6
1981	5,595	7,130	985	809	4,610	5
1982	6,618	7,130	922	1,911	5,696	6
1983	6,681	7,683	1,078	1,731	5,603	6
1984	6,104	7,766	1,203	672	4,901	8
1985	6,713	7,858	1,072	927	5,641	10
1986	6,750	7,950	1,494	750	5,256	
1987	7,100	8,300	1,546	800	5,271	8
1988	7,400	8,800	1,600	850	5,501	8

*Additional food needs to support consumption for Pakistan, with stock adjustment and as constrained by maximum absorbable imports*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent Consumption						
1987/88	239	37	0	0	0	0
1988/89	261	38	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0
Vegetable oils						
1987/88	965	320	0	0	0	0
1988/89	1,007	334	0	0	0	0
Pulses						
1987/88	52	24	0	0	0	0
1988/89	55	26	0	0	0	0
Total						
1987/88		381		0		0
1988/89		398		0		0

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## *Sri Lanka*

The Government of Sri Lanka has requested food assistance for distribution among an estimated 400,000 families affected by a prolonged drought. Although irrigation is available to about two-thirds of both the main (Maha) and secondary (Yala) rice crops, weather has an important influence on the area harvested and the yield of rice. This is because the irrigation system is based mostly on capturing rainfall and surface water in reservoirs and dams. In 1986, the March-harvested Maha crop was affected by floods. The Yala crop suffered dry weather during the early part of the season, but later recovered substantially. In 1987, the Maha crop suffered from very dry conditions, and it seems likely that the Yala crop will also be affected by the drought. Thus, rice production is expected to decline from 1.8 million tons in 1985 to 1.6 million in 1987.

Sri Lanka has reduced its rice imports over the last decade by substantially increasing rice production. No wheat is grown, and wheat imports were held down for some years by increasing local rice supplies. Rice imports are now small, but together wheat and rice imports account for about one-third of the cereal supply.

Coconut oil production declined sharply in 1986 due to the drought, and falling prices cut into export value. Sri Lanka's merchandise trade deficit is expected to improve somewhat in 1987 and 1988, although its debt service may reach the unprecedented level of almost 30 percent of export earnings. Remittances comprise more than 15 percent of Sri Lanka's foreign exchange earnings, and are not likely to increase much. International reserves are also likely to hold steady.

Because of the shortfall in production, status quo food needs are expected to more than double from 162,000 tons in 1986/87 to 383,000 tons in 1987/88. An estimated 88,000 tons of the 1987/88 additional need can be met by drawing down food stocks, leaving an unmet additional need of 295,000 tons. The nutrition-based additional need is estimated at 202,000 tons, including the stock adjustment, up from 95,000 tons in 1986/87. Additional food needs are estimated at zero for 1988/89 based on an assumed return to normal weather and trend levels of rice production.

*Sri Lanka basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	
Major cereals							<u>Percent</u>	
1980/81	1,450	254	692	2,198	0	146	Wheat	13.8
1981/82	1,469	198	663	2,142	0	139	Rice	42.0
1982/83	1,466	188	789	2,226	0	142	Cassava	3.0
1983/84	1,688	217	728	2,317	0	145	Vegetable oils	3.5
1984/85	1,640	316	705	2,458	0	152	Total	62.3
1985/86	1,809	203	876	2,569	0	156		
1986/87	1,765	319	895	2,595	0	154		
1987/88	1,590	384						
1988/89	1,900	384						
Roots								
1980/81	500	0	0	500	0	33		
1981/82	526	0	0	526	0	34		
1982/83	573	0	0	573	0	37		
1983/84	722	0	0	722	0	45		
1984/85	683	0	0	683	0	42		
1985/86	598	0	0	598	0	36		
1986/87	600	0	0	600	0	36		
1987/88	600	0						
1988/89	600	0						
Vegetable oils								
1980/81	78	0	(5)	73	0	5		
1981/82	103	0	(35)	68	0	4		
1982/83	87	0	(26)	61	0	4		
1983/84	37	0	1	38	0	2		
1984/85	130	0	(63)	67	0	4		
1985/86	143	0	(82)	61	0	4		
1986/87	59	0	(10)	49	0	3		
1987/88	90	0						
1988/89	90	0						

*Import requirements for Sri Lanka*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	1,590	2,553	2,488	963	898	1,072
1988/89	1,900	2,582	2,542	682	642	793
Roots						
1987/88	600	668	595	68	(5)	175
1988/89	600	676	600	76	(0)	184
Cereal equivalent						
1987/88	1,825	2,815	2,721	989	896	1,080
1988/89	2,135	2,847	2,777	712	642	804
Vegetable oils						
1987/88	90	69	80	(21)	(10)	(7)
1988/89	90	70	81	(20)	(9)	(6)

*Financial indicators for Sri Lanka, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	1,297	2,205	229	246	1,068	17
1981	1,346	2,055	266	327	1,080	16
1982	1,305	2,205	300	351	1,005	12
1983	1,360	2,138	341	297	1,019	14
1984	1,755	2,121	317	511	1,438	9
1985	1,555	2,296	368	451	1,187	15
1986	1,513	2,263	457	353	1,056	
1987	1,609	2,201	571	322	958	12
1988	1,821	2,383	548	348	1,185	12

*Additional food needs to support consumption for Sri Lanka, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>Cereal equivalent</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Consumption						
1987/88	556	75	383	51	290	39
1988/89	720	92	0	0	0	0
<u>Stock adjustment</u>						
1987/88			(88)	(12)	(88)	(12)
1988/89			0	0	0	0
<u>Total</u>						
1987/88			295	40	202	27
1988/89			0	0	0	0
<u>Vegetable oils</u>						
1987/88	17	7	0	0	0	0
1988/89	21	8	0	0	0	0
<u>Total</u>						
1987/88		81		40		27
1988/89		101		0		0

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## Southeast Asia

Cereal production in the region is projected to rise marginally to 54.5 million tons in 1987/88, assuming average weather during the 1987 wet season. Gains in Laos, the Philippines, and Vietnam are projected to offset stagnating or slightly lower cereal production in Indonesia and Cambodia. The main rice crop is currently being planted in most of the region (except in Indonesia where the wet season begins in November) under average moisture conditions. Regional root production, led by Indonesia, is projected to rebound 4 percent to 16.7 million tons in 1987/88. Vegetable oil production in the region is projected to remain unchanged at 3.7 million tons in 1987/88, as Indonesian coconut and palm harvests offset lower Philippine coconut output.

Status quo cereal import requirements in 1987/88 are estimated at 3.1 million tons, 14 percent below actual imports in 1986/87. Larger requirements for Vietnam are expected to be more than offset by declines elsewhere in the region. Projections for nutrition-based import requirements are substantially lower at 2.4 million tons, because recent strides in Indonesian and Vietnamese consumption apparently exceed the FAO/WHO recommended minimum.

All Southeast Asian countries are projected to continue facing tight balance of payments situations that will likely be characterized by rising debt service obligations, sluggish growth in export earnings, and increasing import expenditures. Regional economic growth continues to be constrained by low prices for most major export commodities, although higher petroleum prices are expected to enable Indonesia to rebuild international reserves and to partially recover from the nearly 30-percent drop in export earnings that occurred in 1986.

Regional status quo additional food needs in 1987/88 are projected at about 860,000 tons, up substantially from estimated 1986/87 additional needs of nearly 140,000 tons, and are confined to Cambodia and Vietnam. In contrast to zero needs estimated for 1986/87, a deteriorating financial situation has caused Vietnam to account for 85 percent of regional additional needs in 1987/88. To achieve nutrition-based requirements in 1987/88, additional cereal needs are projected at about 780,000 tons, with Cambodia and Vietnam allocated nearly equal shares. Assuming average weather and moderate gains in cereal production, total regional status quo and nutrition-based additional cereal needs are projected to increase in 1988/89.

### Southeast Asia basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
	----- 1,000 tons -----			Thousand	Kilos
Major cereals					
1980/81	42,590	2,891	5,538	261,797	180
1981/82	46,585	3,858	4,011	267,884	187
1982/83	45,867	4,381	4,058	273,882	185
1983/84	49,912	3,683	4,956	279,852	197
1984/85	52,227	3,452	4,292	286,083	193
1985/86	52,779	4,676	3,431	292,456	191
1986/87	53,788	5,023	3,664	299,091	194
1987/88	54,479	4,594		305,774	
1988/89	55,750	4,594		312,703	

*Southeast Asia cereal use, additional needs to support consumption, and stock adjustment*

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>1,000 tons</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent						
Consumption						
1987/88	63,813	61,190	849	138	770	155
1988/89	65,255	62,535	969	151	869	164
Stock adjustment						
1987/88			9	2	9	2
1988/89			1	0	1	0
Total						
1987/88			858	140	779	158
1988/89			970	151	870	165

## **Cambodia**

Cambodia's agricultural situation remains difficult to assess because of limited information. Cereal production is projected at 965,000 tons in 1987/88, with the rice crop forecast slightly below the bumper harvest in 1986/87. To support status quo consumption, cereal import requirements are estimated at 165,000 tons in 1987/88, nearly double apparent imports in 1986/87. Imports needed to close the nutritional gap are estimated at 422,000 tons. The large difference between the status quo and nutrition-based estimates of import requirements indicates a broad nutritional gap, with recently achieved consumption levels providing only about 81 percent of the FAO/WHO recommended minimum level of caloric intake. Assuming average weather and modest production gains in 1988/89, both status quo and nutrition-based cereal import needs will likely rise slightly.

While complete financial data are not available, Cambodia's estimated commercial import capacity has been lowered 40 percent to \$12 million, based on estimated actual average outlays on commercial imports during 1983-85. Additional food needs to support status quo consumption are projected at 118,000 tons in 1987/88 and 134,000 tons in 1988/89. Nutrition-based additional needs are projected at 375,000 tons in 1987/88, and 395,000 tons in 1988/89. Because Cambodia's ability to compensate for production shortfalls appears extremely limited, this assessment could quickly change as more information on the main rice crop (harvested December-January) becomes available.

### *Cambodia basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- <u>1,000 tons</u> -----								
Major cereals						Kilos	Percent	
1980/81	1,045	0	162	1,157	0	203	Wheat	1.9
1981/82	854	50	180	1,059	0	183	Rice	72.9
1982/83	928	25	107	1,035	0	176	Corn	6.9
1983/84	1,111	25	185	1,296	0	216	Total	81.7
1984/85	922	25	85	1,007	0	165		
1985/86	922	25	85	1,007	0	161		
1986/87	985	25	85	1,070	0	168		
1987/88	965	25						
1988/89	975	25						

### Import requirements for Cambodia

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- <u>1,000 tons</u> -----						
Major cereals						
1987/88	965	1,130	1,387	165	422	473
1988/89	975	1,158	1,419	183	444	497

### Financial indicators for Cambodia, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available					
					Total	Share to major food imports				
----- <u>Million dollars</u> -----						Percent				
FINANCIAL DATA NOT AVAILABLE										

Additional food needs to support consumption for Cambodia, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Consumption						
1987/88	47	12	118	31	375	97
1988/89	49	12	134	33	395	98
Stock adjustment						
1987/88			9	2	9	2
1988/89			1	0	1	0
Total						
1987/88			127	33	384	99
1988/89			135	33	396	98

### Indonesia

Overall cereal output is expected to be virtually unchanged in 1987/88 following a 2-percent gain in 1986/87. Rice output in 1987/88 could increase slightly because of higher prices and greater plantings. However, yields may be held down by continued plant hopper problems, higher fertilizer prices, and the banning of once widely used insecticides. Indonesia is likely to remain self-sufficient in rice in 1987/88, although government stocks may be drawn down nearly 40 percent to an uncomfortably low 1.3 million tons by the end of 1987. Output of major noncereal food crops is projected to rise in 1987/88, led by continuing strong growth in soybeans and a rebound in cassava.

A major concern to policymakers is the decline in food production per capita, which peaked in 1984/85 before decreasing slightly. This reflects poorly on measures taken to enhance rice output since the remarkably successful intensification programs were terminated in 1985. Officials hope that the new super-intensification programs, which are several years from essentially covering all rice producers, will reverse the recent mediocre performance of the rice economy.

Although the Indonesian economy remains highly dependent on world petroleum prices, austerity measures implemented since 1981 have caused its international reserves to rise, aided by several rupiah devaluations. Economic activity is sluggish and continues to be damaged by low prices, which cut 1986 energy export revenues in half and slashed the nation's total export earnings by 30 percent. Indonesia's substantial debt service burden continues to rise. Despite current economic difficulties, donor food aid is at relatively low levels. U.S. assistance in fiscal 1987 is predominantly through sales of \$23.5 million of P.L. 480 Title I wheat.

Indonesia's food stocks, prospective favorable levels of crop production, and seemingly ample commercial import capacity, make additional food needs extremely unlikely at least through 1988/89. No additional cereal needs are projected as necessary in 1987/88 or 1988/89, according to the status quo or the nutrition-based assessment. The nation's per capita consumption of cereals, roots, and tubers during 1983-86 was equivalent to 109 percent of the FAO/WHO recommended minimum level of caloric intake.

*Indonesia basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	Percent
Major cereals								
1980/81	24,154	1,012	3,519	25,607	1,045	181	Wheat	2.5
1981/82	26,795	2,033	1,867	26,988	1,121	186	Rice	57.9
1982/83	26,072	2,586	2,010	27,355	1,208	185	Corn	7.9
1983/84	29,093	2,105	2,921	30,407	1,439	203	Cassava	6.5
1984/85	31,221	2,273	1,722	30,320	1,559	199	Vegetable oils	5.0
1985/86	30,872	3,337	1,004	30,341	1,776	196		
1986/87	31,489	3,096	1,549	31,193	2,085	199	Total	79.8
1987/88	31,600	2,856						
1988/89	32,500	2,856						
Roots								
1980/81	13,726	0	(986)	12,440	300	86		
1981/82	13,301	0	(685)	12,356	260	84		
1982/83	12,988	0	(490)	12,298	200	81		
1983/84	12,103	0	(256)	11,607	240	75		
1984/85	14,205	0	(1,050)	12,875	280	82		
1985/86	13,762	0	(1,630)	11,842	290	74		
1986/87	13,300	0	(1,410)	11,654	236	71		
1987/88	13,700	0						
1988/89	13,700	0						
Vegetable oils								
1980/81	1,552	40	(180)	1,357	0	9		
1981/82	1,618	55	(303)	1,304	0	9		
1982/83	1,703	66	(414)	1,331	0	9		
1983/84	1,942	24	(229)	1,577	0	10		
1984/85	2,040	160	(904)	1,266	0	8		
1985/86	2,163	30	(723)	1,428	0	9		
1986/87	2,156	42	(675)	1,432	0	9		
1987/88	2,291	91						
1988/89	2,431	91						

*Import requirements for Indonesia*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		<u>1,000 tons</u>				
Major cereals						
1987/88	31,600	32,778	29,563	1,178	(2,037)	3,545
1988/89	32,500	33,507	30,234	1,007	(2,266)	3,415
Roots						
1987/88	13,700	13,249	13,199	(451)	(501)	1,080
1988/89	13,700	13,543	13,402	(157)	(298)	1,408
Cereal equivalent						
1987/88	36,792	37,799	34,566	1,007	(2,227)	3,240
1988/89	37,692	38,639	35,314	947	(2,379)	3,219
Vegetable oils						
1987/88	2,291	1,445	1,453	(846)	(838)	(505)
1988/89	2,431	1,477	1,512	(954)	(919)	(607)

*Financial indicators for Indonesia, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		<u>Million dollars</u>				
1980	21,795	12,624	1,759	5,392	20,036	4
1981	23,348	16,542	2,047	5,014	21,301	2
1982	19,747	17,854	2,247	3,144	17,500	2
1983	18,689	17,726	2,548	3,718	16,141	5
1984	20,754	15,047	3,251	4,773	17,503	2
1985	18,527	12,705	4,015	4,974	14,512	2
1986	13,139	10,896	4,117	4,051	9,022	
1987	16,500	11,000	4,630	4,800	13,252	3
1988	17,250	12,000	5,200	5,200	13,521	3

*Additional food needs to support consumption for Indonesia, with stock adjustment and as constrained by maximum absorbable imports*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent						
Consumption						
1987/88	2,035	351	0	0	0	0
1988/89	2,171	358	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0
Vegetable oils						
1987/88	103	18	0	0	0	0
1988/89	105	18	0	0	0	0
Total						
1987/88		369		0		0
1988/89		377		0		0

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## *Laos*

Assuming average weather, Laos' rice output (main crop harvested in November-December) is forecast to increase moderately in 1987/88 and 1988/89. Recent gains in rice production have resulted from good weather, higher procurement prices, and more intensive cultivation. Domestic output probably will remain sufficient to meet both status quo and nutrition-based consumption levels. However, because Lao rice production is highly vulnerable to poor weather, this outlook could change significantly if rainfall is poor.

Laos' financial situation has deteriorated substantially, with the country's estimated commercial import capacity declining nearly 60 percent to \$9 million in 1987 and 1988. Electricity sales to Thailand have accounted for about three-quarters of hard currency earnings. However, growing domestic consumption and less favorable price terms with Thailand are expected to limit foreign exchange earnings. In addition, forestry product exports have been declining since 1980 because of low procurement prices, poor export marketing, and inadequate transport, harvesting and processing equipment. International reserves cover less than 2 months of imports, placing heavy reliance on bilateral trade agreements with socialist countries and severely limiting Laos' ability to compensate for any potential drop in cereal production through commercial imports.

*Laos basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	<u>1,000 tons</u>							<u>Kilos</u>
Major cereals								<u>Percent</u>
1980/81	684	0	50	734	0	223	Rice	71.2
1981/82	750	0	21	771	0	231	Total	71.2
1982/83	703	0	26	729	0	214		
1983/84	650	0	156	806	0	232		
1984/85	780	0	40	820	0	231		
1985/86	875	0	20	895	0	248		
1986/87	910	0	20	930	0	253		
1987/88	945	0						
1988/89	975	0						

*Import requirements for Laos*

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
	<u>1,000 tons</u>						
Major cereals							
1987/88	945	854	735	(91)	(210)	5	
1988/89	975	873	752	(102)	(223)	(5)	

*Financial indicators for Laos, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available		
					Total	Share to major food imports	
	<u>Million dollars</u>						
							<u>Percent</u>
1980	39	162	3	14	36	140	
1981	28	125	7	13	21	133	
1982	38	151	7	8	31	37	
1983	50	167	7	19	43	27	
1984	56	173	13	11	43	9	
1985	67	208	17	12	50	12	
1986	73	222	16	13	57		
1987	74	235	16	14	55	16	
1988	79	245	16	14	60	16	

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Cereal equivalent Consumption						
1987/88	56	9	0	0	0	0
1988/89	63	9	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0

## *Philippines*

Cereal production is projected to increase 4 percent to a record 10.3 million tons in 1987/88, following drought-reduced rice and corn crops in 1986/87. Assuming normal weather, increased area and yields are estimated to lead to record rice and corn crops of 6.1 million tons and 4.2 million tons, respectively. To maintain status quo consumption, cereal import requirements are estimated at about 600,000 tons. To meet FAO/WHO nutritional standards, cereal imports of about 1.4 million tons are indicated. With rice sufficiency attained, cereal imports consist mainly of wheat, which totaled 1.0 million tons in 1986/87. Except for the remaining 25,000-ton rice loan repayment to Indonesia, no further rice exports are expected in 1987/88. Coconut oil output is forecast to fall 7 percent to 1.4 million tons, although supplies will likely be adequate to meet both status quo and nutrition-based consumption requirements as well as export demand. Production of roots and tubers is estimated to increase to 3.0 million tons, keeping pace with domestic demand.

During 1987, the Philippine economy is forecast to expand 4 percent following 1 year of no growth and 2 years of negative growth. Strong import growth is expected to accompany the upturn in the economy as depleted inventories are rebuilt. Some improvement in traditional exports and stronger performance in nontraditional exports, such as garments and electronics, suggest the turnaround in export earnings begun in 1986 will continue. The overall balance of payments situation is expected to remain tight but manageable due to improved prospects for multilateral and bilateral aid, and the April 1987 debt rescheduling agreement. As a result of this outlook, commercial import capacity is expected to be adequate to meet both status quo and nutrition-based import requirements in 1987/88 and 1988/89. The Government's efforts to stimulate the economy through deficit spending, coupled with improving local food supplies, indicate a shift in assistance needs from food commodities towards balance of payments support through 1988/89.

Philippines basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	----- 1,000 tons -----							<u>Kilos</u>
Major cereals								Percent
1980/81	8,130	1,879	1,054	7,273	2,015	184	Wheat	4.8
1981/82	8,560	1,775	1,132	7,577	2,120	187	Rice	38.1
1982/83	8,151	1,770	1,320	7,489	2,199	183	Corn	16.6
1983/84	8,443	1,553	994	7,986	1,850	181	Cassava	4.7
1984/85	8,769	1,154	1,520	8,207	1,922	182	Sweet potato	2.2
1985/86	9,835	1,314	1,297	8,472	2,072	186	Vegetable oils	2.9
1986/87	9,854	1,902	885	8,711	2,217	188	Total	69.3
1987/88	10,294	1,713						
1988/89	10,500	1,713						
Roots								
1980/81	3,265	0	0	3,265	0	65		
1981/82	3,025	0	0	3,025	0	58		
1982/83	1,970	0	0	1,970	0	37		
1983/84	2,084	0	0	2,084	0	38		
1984/85	2,327	0	0	2,327	0	42		
1985/86	2,575	0	0	2,575	0	45		
1986/87	2,800	0	0	2,800	0	48		
1987/88	3,000	0						
1988/89	3,075	0						
Vegetable oils								
1980/81	1,072	90	(914)	182	0	4		
1981/82	1,481	66	(1,047)	435	0	8		
1982/83	1,123	65	(949)	169	0	3		
1983/84	1,285	70	(1,020)	295	0	5		
1984/85	786	40	(586)	159	0	3		
1985/86	919	81	(655)	230	0	4		
1986/87	1,544	115	(1,238)	286	0	5		
1987/88	1,430	135						
1988/89	1,135	135						

Import requirements for Philippines

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
	----- 1,000 tons -----						
Major cereals							
1987/88	10,294	11,007	11,266	713	972	1,065	
1988/89	10,500	11,245	11,510	745	1,010	1,100	
Roots							
1987/88	3,000	2,690	4,189	(310)	1,189	1,007	
1988/89	3,075	2,748	4,280	(327)	1,205	1,018	
Cereal equivalent							
1987/88	11,392	11,991	12,800	599	1,408	1,194	
1988/89	11,625	12,251	13,077	625	1,451	1,229	
Vegetable oils							
1987/88	1,430	242	741	(1,188)	(689)	(931)	
1988/89	1,135	247	629	(888)	(506)	(625)	

*Financial indicators for Philippines, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
----- <u>Million dollars</u> -----						
1980	7,997	10,348	1,668	2,846	6,329	4
1981	8,583	11,151	2,169	2,066	6,414	5
1982	8,004	11,690	3,050	888	4,954	7
1983	8,132	11,355	2,903	747	5,229	6
1984	8,374	9,656	3,438	602	4,936	6
1985	7,917	8,288	1,257	615	6,660	5
1986	8,400	7,900	3,000	1,728	5,400	
1987	8,750	9,200	3,000	2,000	6,837	6
1988	9,050	10,100	3,000	2,500	7,548	6

*Additional food needs to support consumption for Philippines, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	2,011	268	0	0	0	0
1988/89	2,321	296	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0
Vegetable oils						
1987/88	84	29	0	0	0	0
1988/89	93	32	0	0	0	0
Total						
1987/88		297		0		0
1988/89		328		0		0

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## **Vietnam**

Vietnam's cereal harvests are projected to increase modestly in 1987/88 to a record 10.7 million tons, assuming normal weather. The 1987/88 rice crop is estimated at 10.1 million tons, up 1 percent from last year, but still shy of self-sufficiency. The growth in rice output has slowed since 1984 because of inadequate supply and high prices for fertilizer and other inputs, low procurement prices, and poor weather in 1985 and 1986. The Sixth Party Congress, which met in December 1986, recognizes the need for reform, but efforts may be hindered by rampant inflation and continued heavy dependence on foreign sources for financing the budget.

Because of expected slow growth in rice production, and with population growth surpassing 2 percent, status quo cereal import requirements in 1987/88 are estimated to rise to 1.4 million tons, up 21 percent from 1986/87. Recent consumption levels apparently exceed the FAO/WHO recommended minimum, resulting in a lower nutrition-based import requirement estimate of 1.0 million tons in 1987/88. However, nutrition-based needs are up 29 percent from estimated requirements for 1986/87.

Recent revisions in Vietnam's financial data have caused a marked deterioration of the country's ability to commercially import its food requirements. Commercial import capacity in 1987 has fallen to \$93 million, down 52 percent from 1986. While the trade deficit has narrowed in recent years because of stagnating imports, export earnings remain less than half of import expenditures. During 1986, Vietnam experienced slow growth in several of its key export products, such as handicrafts, coal, and agricultural goods because of poor quality and insufficient supply. The balance of payments deficit has been financed largely by further reduction in already low international reserves and the accumulation of arrears on foreign debt obligations. No new loans or debt relief was extended in 1986.

Estimates of Vietnam's status quo and nutrition-based cereal additional needs for 1987/88 are substantially above 1986/87, when no needs were forecast. Status quo cereal needs are estimated at 731,000 tons and nutrition-based cereal needs are placed at 395,000 tons. Preliminary projections for 1988/89 suggest continued slow growth in food grain production, which results in increasing import requirements. Although commercial food capacity is estimated to improve 5 percent to \$98 million, status quo additional needs are projected to increase 14 percent to 835,000 tons. Nutrition-based needs are also projected to rise 20 percent to about 475,000 tons.

#### *Vietnam basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	
<b>Major cereals</b>								
1980/81	8,577	0	753	9,330	0	170	Wheat	8.4
1981/82	9,626	0	811	10,437	0	186	Rice	58.7
1982/83	10,013	0	595	10,608	0	184	Corn	3.0
1983/84	10,615	0	700	11,315	0	192	Total	70.1
1984/85	10,535	0	925	11,460	0	189		
1985/86	10,275	0	1,025	11,300	0	182		
1986/87	10,550	0	1,125	11,675	0	184		
1987/88	10,675	0						
1988/89	10,800	0						

#### *Import requirements for Vietnam*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	10,675	12,038	11,702	1,363	1,027	1,804
1988/89	10,800	12,335	11,973	1,535	1,173	1,987

*Financial indicators for Vietnam, actual and projected*

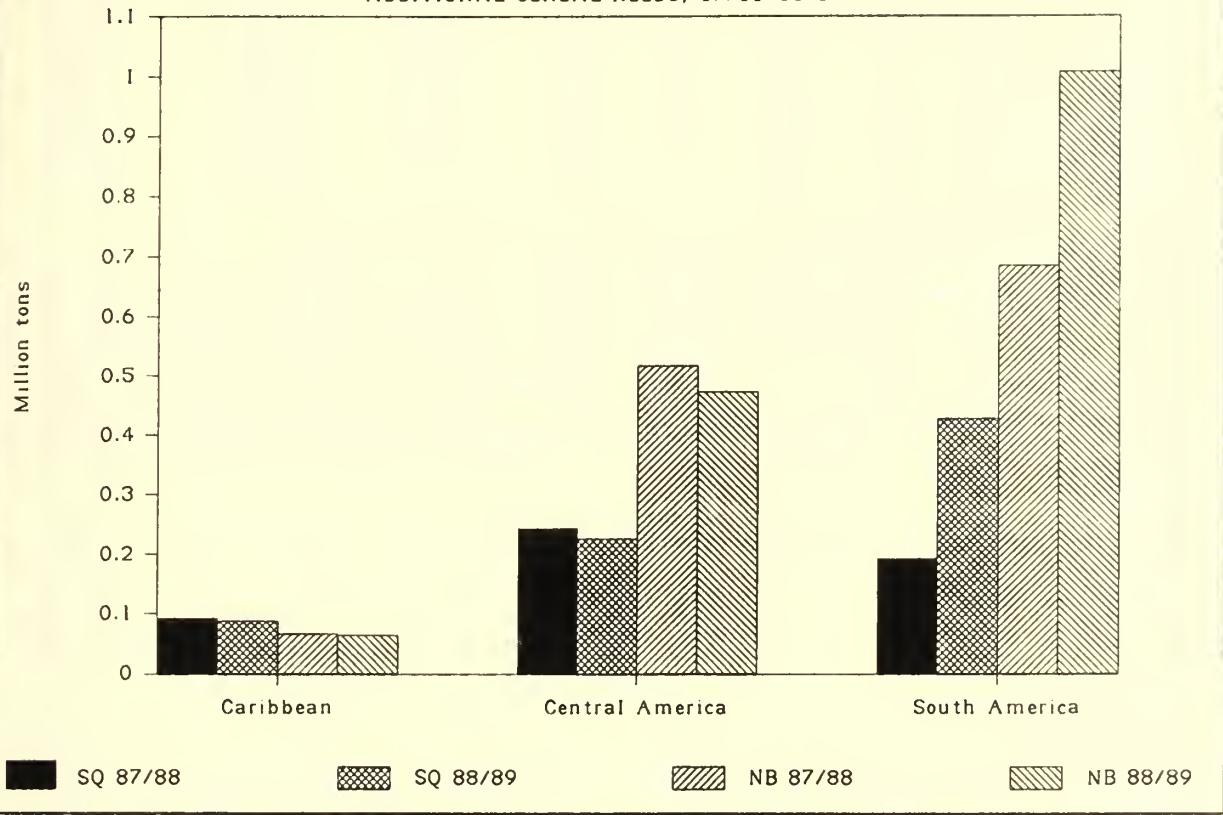
Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		<u>Million dollars</u>				
1980	537	1,296	242	98	295	41
1981	399	1,120	391	16	8	NA
1982	475	1,185	164	16	311	36
1983	588	1,310	161	16	427	6
1984	665	1,560	160	12	505	20
1985	746	1,590	111	12	635	15
1986	790	1,600	124	10	666	
1987	825	1,625	130	10	692	14
1988	870	1,650	135	10	731	14

*Additional food needs to support consumption for Vietnam, with stock adjustment and as constrained by maximum absorbable imports*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Consumption						
1987/88	633	93	731	107	395	58
1988/89	699	98	835	117	474	67
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			731	107	395	58
1988/89			835	117	474	67

## Latin America

LATIN AMERICA  
ADDITIONAL CEREAL NEEDS, 87/88-88/89



### Caribbean

The food situation in three of the five largest island states in the Caribbean improved considerably during 1986 and early 1987. Additional food needs to support consumption in 1987/88 have decreased approximately 50 percent from the July 1986 calculation. Haiti, however, is currently the only country in the Caribbean with "additional food needs" in 1987/88, because the requirement for the Dominican Republic dropped out with the latest round of calculations.

The slight improvement in the food situation in the Caribbean is due to an improved outlook for both agricultural and financial conditions. Upward revisions in current production estimates have reduced projected import requirements. Furthermore, unanticipated improvements in the international financial positions of these countries have increased the region's commercial import capacity and reduced the need for non-commercial imports for the next few months.

Although other Caribbean countries besides Haiti, Jamaica, and the Dominican Republic receive food aid on a regular basis, they have not been included in this exercise in recent years. The three Caribbean countries included in this survey, however, are representative of the countries and food situation in the Caribbean region.

*Caribbean basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----					
Major cereals				<u>Thousand</u>	<u>Kilos</u>
1980/81	852	99	979	12,947	139
1981/82	711	131	896	13,144	123
1982/83	763	115	935	13,345	125
1983/84	752	139	964	13,542	130
1984/85	801	95	1,062	13,680	138
1985/86	666	73	1,149	13,850	131
1986/87	736	74	1,075	14,030	129
1987/88	751	74		14,210	
1988/89	754	74		14,390	

*Caribbean cereal use, additional food needs to support consumption, and stock adjustment*

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	2,262	2,214	87	11	61	8
1988/89	2,293	2,244	87	11	64	8
Stock adjustment						
1987/88			6	1	6	1
1988/89			0	0	0	0
Total						
1987/88			93	12	66	8
1988/89			87	11	64	8
Maximum absorbable						
Cereal equivalent						
1987/88			93	12	66	8
1988/89			87	11	60	7

## *Dominican Republic*

The Dominican Republic experienced a decline in real income growth in 1986 as well as an 11-percent decline in end-of-year foreign reserves. Conditions in recent months, however, have improved far more than anticipated a year ago, even though the sugar industry remains depressed and sugar exports to the United States have declined. Export earnings and capital inflows have been considerably higher than expected. This has increased the commercial import capacity for 1987/88, from 427,000 tons as calculated a year ago to 564,000 tons of cereal equivalent. Estimates of agricultural production for 1987/88 have also been raised by 43,000 tons of cereal equivalent because of larger grain and root crops.

The Dominican Republic has experienced general economic improvement in recent months, because of the successful implementation of stronger production incentives and the improved management of foreign trade, debts, and national affairs. The Dominican Republic's additional food needs estimates are zero for both 1987/88 and 1988/89.

Dominican Republic basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	----- 1,000 tons -----							
Major cereals							Kilos	Percent
1980/81	299	86	363	438	180	109	Wheat	9.1
1981/82	334	130	315	478	195	115	Rice	20.8
1982/83	373	106	342	491	224	120	Corn	2.2
1983/84	367	106	400	542	260	131	Cassava	1.7
1984/85	380	71	400	532	270	129	Plantains	8.6
1985/86	330	49	509	503	335	131	Bananas	3.6
1986/87	365	50	425	549	241	121	Dry beans	3.5
1987/88	370	50					Milk	6.2
1988/89	380	50					Total	55.7
Roots								
1980/81	1,050	0	(10)	1,040	0	183		
1981/82	1,105	0	(21)	1,084	0	186		
1982/83	1,080	0	(12)	1,068	0	179		
1983/84	1,090	0	(26)	1,064	0	173		
1984/85	1,045	0	(25)	1,020	0	163		
1985/86	1,054	0	(30)	1,024	0	161		
1986/87	1,062	0	(25)	1,037	0	159		
1987/88	1,060	0						
1988/89	1,090	0						
Pulses								
1980/81	40	0	0	40	0	7		
1981/82	43	0	0	43	0	7		
1982/83	41	0	0	41	0	7		
1983/84	38	0	0	38	0	6		
1984/85	34	0	8	42	0	7		
1985/86	33	0	0	33	0	5		
1986/87	41	0	0	41	0	6		
1987/88	35	0						
1988/89	40	0						
Milk (whole)								
1980/81	350	0	0	350	0	61		
1981/82	350	0	0	350	0	60		
1982/83	352	0	0	352	0	59		
1983/84	310	0	0	310	0	51		
1984/85	389	0	0	389	0	62		
1985/86	335	0	0	335	0	53		
1986/87	305	0	0	305	0	47		
1987/88	350	0						
1988/89	400	0						

*Import requirements for Dominican Republic*

Commodity/year	Production	Total use		Import requirements			Maximum absorbable
		Status quo	Nutrition-based	Status quo	Nutrition-based		
<b>-----1,000 tons-----</b>							
Major cereals							
1987/88	370	807	807	437	437	585	
1988/89	380	824	824	444	444	593	
Roots							
1987/88	1,060	1,143	1,138	83	78	177	
1988/89	1,090	1,167	1,163	77	73	173	
Cereal equivalent							
1987/88	660	1,122	1,117	462	457	612	
1988/89	679	1,146	1,141	467	462	619	
Pulses							
1987/88	35	43	59	8	24	14	
1988/89	40	44	61	4	21	10	
Milk (dry equiv.)							
1987/88	31	35	54	3	23	6	
1988/89	36	35	56	(0)	20	2	

*Financial indicators for Dominican Republic, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<b>-----Million dollars-----</b>						
1980	1,313	2,171	154	202	1,159	9
1981	1,524	2,107	229	225	1,295	10
1982	1,146	1,793	256	129	890	10
1983	1,249	1,882	221	171	1,028	10
1984	1,375	1,804	146	254	1,229	9
1985	1,313	1,790	204	340	1,109	12
1986	1,380	1,850	195	376	1,185	
1987	1,460	1,920	242	350	1,269	10
1988	1,470	1,950	243	350	1,273	10

*Additional food needs to support consumption for Dominican Republic, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent Consumption						
1987/88	564	72	0	0	0	0
1988/89	591	72	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0
Pulses						
1987/88	7	2	0	0	0	0
1988/89	7	2	0	0	0	0
Milk						
1987/88	9	11	0	0	0	0
1988/89	9	11	0	0	0	0
Total						
1987/88		86		0		0
1988/89		86		0		0

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## *Haiti*

Haiti has one of the lowest per capita incomes in the Western Hemisphere. It has also one of the highest food deficits in the region. Furthermore, Haiti has relied heavily on foreign food and financial assistance in recent years. In 1986, however, Haiti enjoyed a 2-percent growth in real income and ended the year with a 46-percent increase in foreign reserves to \$16 million.

The calculated status quo requirements for 1987/88 have not changed appreciably from last year's update, but the nutrition-based requirements have declined significantly. This decline primarily reflects a downward revision in the population series for Haiti. Consequently, there has been more food available on a per capita basis during the 1980's than previously estimated.

Haiti will require 93,000 metric tons of "additional food needs" in 1987/88 just to maintain historic consumption standards.

*Haiti basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	----- 1,000 tons -----							Kilos
Major cereals								Percent
1980/81	537	0	202	589	150	148	Wheat	11.4
1981/82	368	0	165	463	70	106	Rice	7.6
1982/83	380	0	177	468	65	106	Corn	13.5
1983/84	375	24	183	497	75	113	Sorghum	7.2
1984/85	411	10	260	611	60	133	Cassava	3.5
1985/86	325	10	260	505	80	116	Dry beans	3.5
1986/87	360	10	260	498	122	122	Chickpeas	2.5
1987/88	370	10					Total	49.3
1988/89	360	10						
Roots								
1980/81	250	0	0	250	0	50		
1981/82	252	0	4	256	0	51		
1982/83	250	0	7	257	0	51		
1983/84	255	0	5	260	0	52		
1984/85	250	0	5	255	0	50		
1985/86	260	0	5	265	0	52		
1986/87	260	0	5	265	0	52		
1987/88	260	0						
1988/89	260	0						
Pulses								
1980/81	58	0	0	58	0	12		
1981/82	65	0	13	78	0	16		
1982/83	65	0	15	80	0	16		
1983/84	64	0	11	75	0	15		
1984/85	64	0	20	84	0	17		
1985/86	56	0	20	76	0	15		
1986/87	65	0	20	85	0	17		
1987/88	65	0						
1988/89	90	0						

*Import requirements for Haiti*

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
	----- 1,000 tons -----						
Major cereals							
1987/88	370	615	581	245	211	393	
1988/89	360	616	581	256	221	405	
Roots							
1987/88	260	248	277	(12)	17	6	
1988/89	260	248	277	(12)	17	7	
Cereal equivalent							
1987/88	440	682	656	242	215	392	
1988/89	430	684	656	253	226	403	
Pulses							
1987/88	65	77	100	12	35	19	
1988/89	90	77	105	(13)	15	(5)	

*Financial indicators for Haiti, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	309	501	21	26	288	25
1981	246	552	21	24	225	34
1982	278	521	16	4	262	22
1983	295	547	15	9	280	17
1984	314	572	17	13	297	12
1985	320	585	20	6	300	18
1986	320	600	19	10	301	
1987	320	590	18	10	302	16
1988	320	600	18	10	302	16

*Additional food needs to support consumption for Haiti, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	
<b>Cereal equivalent</b>						
Consumption						
1987/88	155	20	87	11	61	8
1988/89	162	20	87	11	64	8
<b>Stock adjustment</b>						
1987/88			6	1	6	1
1988/89			0	0	0	0
<b>Total</b>						
1987/88			93	12	66	8
1988/89			87	11	64	8
<b>Pulses</b>						
1987/88	1	0	11	7	34	21
1988/89	1	0	0	0	14	9
<b>Total</b>						
1987/88		20		19		30
1988/89		20		11		17
<b>Maximum absorbable</b>						
<b>Cereal equivalent</b>						
1987/88			93	12	66	8
1988/89			87	11	60	7
<b>Pulses</b>						
1987/88			11	7	19	12
1988/89			0	0	0	0
<b>Total</b>						
1987/88				19		20
1988/89				11		7

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## Jamaica

Jamaica's calculated food import requirements have increased slightly. But the additional food needs estimate remains at zero for 1987/88 and 1988/89. The latest calculations suggest Jamaica has sufficient financial capacity to buy the food it needs through commercial channels in 1987/88 despite the 39-percent decline in end-of-year foreign reserves from 1985 to 1986.

In 1987, Jamaica's financial position has been temporarily improved by the government's continuing liquidation of capital assets through the divesture of state-owned enterprises, and the strict management of its foreign trade and financial assets for several months.

This, however, does not mean that Jamaica can maintain current consumption standards very long without foreign food or financial assistance, because it does not have the capacity to produce or import what it needs without increasing export earnings dramatically.

### Jamaica basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----						Kilos	Percent	
Major cereals								
1980/81	16	13	414	250	192	197	Wheat	21.9
1981/82	9	1	416	222	195	182	Rice	8.0
1982/83	10	9	416	231	195	183	Corn	4.0
1983/84	10	9	381	231	155	163	Yams/sweet potatoes	6.2
1984/85	10	14	402	255	157	172	Total	40.0
1985/86	11	14	380	231	160	162		
1986/87	11	14	390	192	209	164		
1987/88	11	14						
1988/89	14	14						
Roots								
1980/81	184	0	0	184	0	82		
1981/82	150	0	0	150	0	66		
1982/83	120	0	0	120	0	51		
1983/84	137	0	0	137	0	58		
1984/85	150	0	0	150	0	63		
1985/86	150	0	0	150	0	62		
1986/87	150	0	0	150	0	61		
1987/88	150	0						
1988/89	150	0						

### Import requirements for Jamaica

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
----- 1,000 tons -----						
Major cereals						
1987/88	11	409	391	398	380	512
1988/89	14	414	396	400	382	515
Roots						
1987/88	150	151	154	1	4	53
1988/89	150	153	155	3	5	55
Cereal equivalent						
1987/88	60	458	442	398	381	526
1988/89	63	464	447	401	384	530

*Financial indicators for Jamaica, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	1,422	1,678	201	105	1,221	10
1981	1,500	1,961	397	85	1,103	11
1982	1,371	1,925	259	109	1,112	8
1983	1,332	1,789	207	63	1,125	9
1984	1,335	1,799	286	97	1,050	10
1985	1,092	1,751	398	161	694	16
1986	1,090	1,290	282	98	808	
1987	1,120	1,370	280	100	853	12
1988	1,150	1,440	290	100	869	12

*Additional food needs to support consumption for Jamaica, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>Cereal equivalent</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>	<u>1,000 tons</u>	<u>Million \$</u>
Consumption						
1987/88	497	79	0	0	0	0
1988/89	529	81	0	0	0	0
<u>Stock adjustment</u>						
1987/88			0	0	0	0
1988/89			0	0	0	0
<u>Total</u>						
1987/88			0	0	0	0
1988/89			0	0	0	0

## Central America

During 1986/87, the region's cereal production was reduced 5 percent because of drought. Usually, a large portion of Central America is subject to climatological phenomena commonly known as "canicula." This is normally a 45-day period between July and the middle of August with a high probability of a very low rainfall. The 1986 "canicula" was unusually severe and prolonged and extended to areas not normally affected. The effects on agricultural output were felt everywhere, but El Salvador and Honduras were especially hard hit.

With normal weather, the region's food grain production is expected to recover in 1987/88. As a result, status quo import requirements are projected to remain near 860,000 tons. However, needs are expected to increase to about 1 million tons in 1988/89. To meet nutrition-based requirements, significantly larger imports of 1.1 million tons and 1.2 million tons would be required in 1987/88 and 1988/89, respectively. El Salvador alone accounts for more than one-third of the region's import requirements.

After revisions in the financial indicators for Central America, it is estimated that about 220,000 tons of additional food is needed to support consumption in 1987/88.

### Central America basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----				<u>Thousand</u>	<u>Kilos</u>
<b>Major cereals</b>					
1980/81	2,456	405	708	20,344	156
1981/82	2,670	390	502	20,759	155
1982/83	2,518	334	661	21,327	150
1983/84	2,656	324	677	21,905	149
1984/85	2,840	386	654	22,547	150
1985/86	2,789	493	783	23,230	154
1986/87	2,653	485	773	23,912	143
1987/88	2,865	485		24,606	
1988/89	2,880	485		25,308	

### Central America cereal use, additional food needs to support consumption, and stock adjustment

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
<b>Cereal equivalent</b>						
<b>Consumption</b>						
1987/88	3,723	3,965	220	33	469	70
1988/89	3,829	4,072	220	32	461	65
<b>Stock adjustment</b>						
1987/88			25	4	48	7
1988/89			6	1	13	1
<b>Total</b>						
1987/88			244	37	517	77
1988/89			225	32	473	68
<b>Maximum absorbable</b>						
<b>Cereal equivalent</b>						
1987/88			244	37	457	68
1988/89			225	32	411	59

## Costa Rica

Cereal production in 1987/88 is estimated at 230,000 tons, up 4 percent from the 1986/87 drought-reduced harvest. The prolonged drought that hit the Pacific Coastline of most countries of the region reduced rice and corn production. Rice continues to be Costa Rica's major food grain product, but also the most controversial basic grain crop. The Government of Costa Rica attempted to reduce the financial burden created by subsidies to grain producers and consumers. The National Production Council (CNP), that had been in charge of setting the farm price of grain and enforcing it by acting as farm gate purchaser, wholesaler, and retailer, and sole foreign trader of grains, is no longer responsible for rice. The Government has created a special office to handle the rice program.

Costa Rica's 1987/88 status quo cereal import requirements are estimated at about 145,000 tons, 10,000 tons lower than in 1986/87. However, the forecast for 1988/89 is expected to increase by 20 percent. Nutrition-based cereal import needs are placed at 117,000 tons, the same level as last year.

Costa Rica's balance of payments position is projected to remain tight during 1987/88 and 1988/89. However, GDP growth has been stimulated by the revival of the world economy and by higher prices for Costa Rica's major exports--coffee, bananas, and sugar. The economic stabilization programs embarked on by Costa Rica's government within the scope of standby agreements with the IMF, and rescheduling agreements with the Paris Club and international credit banks, have provided considerable relief. Nevertheless, with population growth of almost 3 percent a year, real per capita income in 1986 was still below that registered in 1980. Costa Rica's per capita foreign debt of \$1,800 makes it one of the most heavily indebted developing countries. However, foreign exchange availabilities are likely to be adequate to purchase all needed food items.

Costa Rica's status quo additional food needs are estimated at zero in 1987/88, with commercial import capacity more than adequate to finance import needs. Nutrition-based additional needs are also estimated at zero.

### Costa Rica basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	
Major cereals							<u>Percent</u>	
1980/81	179	67	108	230	70	129	Wheat	11.4
1981/82	209	54	97	261	70	139	Rice	14.0
1982/83	173	29	197	273	70	140	Corn	7.8
1983/84	256	56	120	274	70	136	Total	33.2
1984/85	233	88	145	280	70	135		
1985/86	224	116	145	305	70	141		
1986/87	220	110	118	263	75	124		
1987/88	230	110						
1988/89	210	110						

### Import requirements for Costa Rica

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	230	375	347	145	117	171
1988/89	210	385	353	175	143	201

*Financial indicators for Costa Rica, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	1,219	1,897	205	145	1,014	6
1981	1,200	1,636	197	132	1,003	6
1982	1,143	1,446	138	226	1,005	2
1983	1,173	1,526	601	311	572	10
1984	1,313	1,622	350	405	963	5
1985	1,270	1,642	464	506	806	5
1986	1,325	1,700	536	600	789	
1987	1,330	1,750	421	600	1,018	6
1988	1,410	1,700	446	600	1,087	6

*Additional food needs to support consumption for Costa Rica, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	303	50	0	0	0	0
1988/89	338	53	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0

## *El Salvador*

Food grain production in 1987/88 is estimated at 580,000 tons, 5 percent above 1986/87. The drought that hit Central America in June and July 1986 was particularly devastating in the major cereal growing regions of northern and eastern El Salvador. The country's cereal production declined 16 percent to 555,000 tons in 1986/87, the lowest since 1982/83. The Government of El Salvador has continued to encourage national grain production by maintaining guaranteed prices for both producers and consumers. Corn is a very important staple in the Salvadorean diet. With normal weather and higher producer prices in 1987/88, rice and corn production is expected to increase.

El Salvador's status quo import requirements for 1987/88 and 1988/89 are an estimated 323,000 tons and 351,000 tons, respectively. However, to meet FAO's recommended minimum diet, cereal imports of over 400,000 tons would be required in each year.

El Salvador's economic position continues to be very fragile and heavily dependent on financial assistance from abroad. According to preliminary data, real GDP declined by 0.5 percent in 1986. In addition to the guerilla war, drought and a severe earthquake that struck in October 1986 intensified the country's economic difficulties.

El Salvador's availability of foreign exchange to import food commercially has increased to \$19 million. However, additional food needs to support status quo consumption are projected at 200,000 tons in 1987/88 valued at \$30 million. Nutrition-based additional needs are projected higher at 285,000 tons valued at \$43 million.

*El Salvador basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>								<u>Kilos</u>
<b>Major cereals</b>							<u>Percent</u>	
1980/81	697	98	148	630	199	176	Wheat	8.5
1981/82	664	114	149	643	194	182	Rice	3.4
1982/83	552	90	179	572	193	163	Corn	36.2
1983/84	586	56	226	565	194	158	Sorghum	6.6
1984/85	701	109	134	566	211	158	Dry beans	3.7
1985/86	663	167	208	644	228	171	Total	58.5
1986/87	555	166	258	594	219	155		
1987/88	580	166						
1988/89	580	166						
<b>Pulses</b>								
1980/81	40	9	1	44	0	9		
1981/82	38	6	2	46	0	10		
1982/83	38	0	13	51	0	11		
1983/84	42	0	0	42	0	9		
1984/85	48	0	10	58	0	12		
1985/86	34	0	10	44	0	9		
1986/87	48	0	1	49	0	9		
1987/88	45	0						
1988/89	45	0						

*Import requirements for El Salvador*

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
<u>1,000 tons</u>							
<b>Major cereals</b>							
1987/88	580	903	989	323	409	406	
1988/89	580	931	1,018	351	438	435	
<b>Pulses</b>							
1987/88	45	53	55	8	10	28	
1988/89	45	55	57	10	12	30	

*Financial indicators for El Salvador, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						<u>Percent</u>
1980	1,271	1,289	42	78	1,229	5
1981	970	1,281	48	72	923	5
1982	872	1,196	68	109	804	5
1983	908	1,217	156	160	752	3
1984	954	1,316	194	166	760	2
1985	854	1,318	196	180	658	9
1986	944	1,337	125	170	819	
1987	975	1,340	166	150	784	5
1988	990	1,370	169	150	793	5

*Additional food needs to support consumption for El Salvador, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent						
Consumption						
1987/88	124	19	200	30	285	43
1988/89	131	19	220	32	307	44
Stock adjustment						
1987/88			18	3	18	3
1988/89			6	1	6	1
Total						
1987/88			218	33	304	46
1988/89			225	32	313	45
Pulses						
1987/88	1	1	7	4	9	5
1988/89	1	1	9	5	10	5
Total						
1987/88		19		37		50
1988/89		19		37		50
Maximum absorbable						
Cereal equivalent						
1987/88			218	33	300	45
1988/89			225	32	310	45
Pulses						
1987/88			7	4	9	5
1988/89			9	5	10	5
Total						
1987/88				37		50
1988/89				37		50

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## *Guatemala*

Food grain production is estimated to increase 9 percent to 1.3 million tons in 1987/88 because of a bumper corn harvest. Most of the increase will come from corn area expansion, rather than yield advances. Good weather and the expectation of better prices following the removal of retail price ceilings may encourage many farmers to expand rice plantings. The 1987/88 wheat crop is estimated to continue its upward trend although ideal wheat producing conditions are limited in Guatemala. Wheat production meets less than one-third of the domestic demand.

With normal weather, food grain output is projected to rise steadily through 1988/89. Corn is expected to benefit from an expansion in area planted and higher producer prices. For these gains, 1987/88 and 1988/89 status quo cereal import requirements are estimated to stay near actual 1986/87 imports of 135,000 tons. To meet the FAO recommended minimum diet, cereal imports of about 286,000 and 300,000 tons would be required in 1987/88 and 1988/89, respectively.

Current balance of payments projections indicate that Guatemala's commercial import capacity will be adequate to finance all of its status quo additional food needs and the bulk of its nutrition-based needs in 1987/88 and 1988/89. The country's trade performance improved considerably in 1986, mostly because improved coffee prices compensated for the decline in earnings from cotton and cardamom. Guatemala has avoided a full-scale rescheduling of its foreign debt, which totaled \$2.7 billion at the end of 1986. Instead, Guatemala has improved its foreign exchange position and has concluded bilateral rescheduling agreements with private creditors. Negotiations are also being held with the IMF in connection with a new loan. The status quo approach reveals that Guatemala has no status quo additional food needs; however, to achieve both the FAO recommended diet and build stocks, additional needs of 88,000 tons are estimated in 1987/88.

*Guatemala basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>						<u>Kilos</u>	<u>Percent</u>	
<b>Major cereals</b>								
1980/81	944	152	193	1,008	163	165	Wheat	9.6
1981/82	1,034	118	80	964	179	154	Corn	45.7
1982/83	1,141	89	79	979	175	151	Dry beans	4.4
1983/84	1,099	155	107	1,018	203	156	Total	59.7
1984/85	1,144	140	170	1,100	219	163		
1985/86	1,149	135	167	1,088	225	158		
1986/87	1,153	138	135	1,067	221	150		
1987/88	1,260	138						
1988/89	1,290	138						
<b>Pulses</b>								
1980/81	58	10	18	86	0	12		
1981/82	84	0	6	88	0	12		
1982/83	89	2	0	90	0	12		
1983/84	85	1	6	92	0	12		
1984/85	95	0	4	99	0	12		
1985/86	100	0	4	104	0	13		
1986/87	105	0	0	105	0	12		
1987/88	105	0						
1988/89	110	0						

*Import requirements for Guatemala*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	1,260	1,392	1,546	132	286	254
1988/89	1,290	1,432	1,590	142	300	268
<b>Pulses</b>						
1987/88	105	107	104	2	(1)	15
1988/89	110	110	108	(0)	(2)	13

*Financial indicators for Guatemala, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<b>----- Million dollars -----</b>						
1980	1,834	2,107	45	445	1,789	3
1981	1,516	2,190	60	150	1,455	4
1982	1,312	1,774	103	113	1,210	4
1983	1,205	1,460	146	210	1,059	4
1984	1,261	1,667	195	274	1,067	5
1985	1,195	1,750	255	301	940	6
1986	1,390	1,800	300	362	1,090	
1987	1,410	1,900	200	400	1,284	5
1988	1,450	1,925	205	400	1,314	5

*Additional food needs to support consumption for Guatemala, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	218	34	0	0	64	10
1988/89	234	34	0	0	62	9
Stock adjustment						
1987/88			0	0	24	4
1988/89			0	0	5	1
Total						
1987/88			0	0	88	13
1988/89			0	0	67	10
Pulses						
1987/88	1	1	0	0	0	0
1988/89	1	1	0	0	0	0
Total						
1987/88		34		0		13
1988/89		35		0		10
Maximum absorbable						
Cereal equivalent						
1987/88			0	0	56	9
1988/89			0	0	35	5
Pulses						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88				0		9
1988/89				0		5

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## Honduras

Honduras' cereal supply declined 7 percent in 1986/87 as the corn harvest fell because of prolonged drought in the southern region. Although rice and sorghum crops were also affected, no significant need for imports of these grains is expected. The country does not produce wheat, so wheat requirements are filled through imports.

Central Bank reserves are estimated to have risen more than \$20 million in 1986. Pressure to devalue the official currency were reduced due to the increase in international coffee prices and the reduction in foreign exchange requirements for petroleum due to the decline in international oil prices. Although the economy improved in 1986, the expansion did not keep pace with an annual population growth of more than 3 percent, causing a decline in per capita income.

About 130,000 tons of cereal imports are required in 1987/88 and 1988/89 to meet status quo needs. With a commercial import capacity of only 107,000 tons of grain equivalent in 1987/88 and 134,000 in 1988/89, the status quo based calculations bring the additional food needs to 20,000 tons in 1987/88 and zero the following year. Nutrition-based additional needs are calculated at 120,000 tons in 1987/88 and 92,000 tons in 1988/89.

### Honduras basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	
Major cereals							<u>Percent</u>	
1980/81	393	72	142	410	125	142	Wheat	6.1
1981/82	487	72	104	432	130	145	Corn	41.1
1982/83	385	101	90	411	120	133	Dry beans	4.3
1983/84	417	45	114	397	130	128	Total	51.5
1984/85	506	49	90	395	175	134		
1985/86	472	75	133	469	140	139		
1986/87	440	71	137	425	152	128		
1987/88	500	71						
1988/89	520	71						
Pulses								
1980/81	36	0	3	39	0	10		
1981/82	43	0	(2)	41	0	11		
1982/83	45	0	1	46	0	11		
1983/84	44	0	0	44	0	11		
1984/85	50	0	0	50	0	12		
1985/86	50	0	0	50	0	11		
1986/87	55	0	0	55	0	12		
1987/88	55	0						
1988/89	60	0						

### Import requirements for Honduras

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	500	628	726	128	226	201
1988/89	520	647	749	127	229	201
Pulses						
1987/88	55	51	58	(4)	3	2
1988/89	60	53	60	(7)	(0)	(2)

*Financial indicators for Honduras, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	968	1,306	98	149	869	5
1981	903	1,233	117	101	786	5
1982	784	1,042	149	113	635	3
1983	815	1,081	122	114	693	5
1984	964	1,254	130	128	834	5
1985	890	1,353	171	105	720	5
1986	950	1,350	287	127	663	
1987	970	1,350	285	129	687	5
1988	990	1,350	165	130	828	5

*Additional food needs to support consumption for Honduras, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	107	15	20	3	120	17
1988/89	134	18	0	0	92	12
Stock adjustment						
1987/88			6	1	6	1
1988/89			2	0	2	0
Total						
1987/88			26	4	126	18
1988/89			0	0	94	13
Pulses						
1987/88	0	0	0	0	2	2
1988/89	0	0	0	0	0	0
Total						
1987/88		15		4		20
1988/89		18		0		13
Maximum absorbable						
Cereal equivalent						
1987/88			26	4	101	14
1988/89			0	0	66	9
Pulses						
1987/88			0	0	1	1
1988/89			0	0	0	0
Total						
1987/88				4		15
1988/89				0		9

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## Nicaragua

Information on Nicaragua's economy and food supply has been very limited since the United States imposed an economic embargo in May 1985. Grain production in 1986/87 is estimated to remain near the 1985/86 level of 300,000 tons. Because of continued guerilla warfare and lack of information it is very difficult to make accurate production projections.

Nicaragua's economic situation has been characterized by acute supply shortages, high inflation, and declining exports. Preliminary estimates indicate that GDP stagnated in 1986, mainly because of high military expenditures, which comprise 40-50 percent of the budget.

Current, but highly uncertain, balance of payments projections indicate that Nicaragua's commercial import capacity will be adequate to finance all of its status quo and nutrition-based import needs in 1987/88 and 1988/89.

### Nicaragua basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>							<u>Kilos</u>	
<b>Major cereals</b>							<u>Percent</u>	
1980/81	243	16	117	344	0	143	Wheat	4.0
1981/82	276	32	72	355	0	143	Rice	12.8
1982/83	267	25	116	396	0	155	Corn	27.0
1983/84	298	12	110	420	0	160	Dry beans	5.8
1984/85	256	0	115	371	0	137	Total	49.5
1985/86	281	0	130	411	0	148		
1986/87	285	0	125	410	0	143		
1987/88	295	0						
1988/89	280	0						
<b>Pulses</b>								
1980/81	39	7	8	51	0	21		
1981/82	55	3	0	51	0	21		
1982/83	60	7	0	53	0	21		
1983/84	59	14	(10)	54	0	21		
1984/85	60	9	0	61	0	23		
1985/86	60	8	0	60	0	22		
1986/87	60	8	0	60	0	21		
1987/88	60	8						
1988/89	60	8						

### Import requirements for Nicaragua

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	295	424	357	129	62	208
1988/89	280	435	363	155	83	234
<b>Pulses</b>						
1987/88	60	62	47	2	(13)	12
1988/89	60	63	49	3	(11)	14

*Financial indicators for Nicaragua, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	514	1,017	82	65	432	13
1981	582	1,153	161	111	421	18
1982	456	978	163	171	293	19
1983	470	993	83	175	387	18
1984	465	1,000	65	125	400	23
1985	345	1,092	41	100	304	23
1986	290	1,040	68	100	222	
1987	395	1,020	93	100	278	21
1988	440	1,100	100	100	307	21

*Additional food needs to support consumption for Nicaragua, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	158	32	0	0	0	0
1988/89	182	36	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0
Pulses						
1987/88	6	4	0	0	0	0
1988/89	7	4	0	0	0	0
Total						
1987/88		36		0		0
1988/89		40		0		0

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## South America

Financial factors will continue to determine additional food needs in 1987/88 and 1988/89. Ecuador, requiring the largest additional food needs, has severe financial difficulties because of the collapse of its export earnings stemming from the early 1987 tremors that destroyed its export oil pipeline. Peru has had some financial improvement. Rather than making payments on mounting foreign debt, Peru has chosen to build international reserves and to use the money in its own internal economy. In this tradeoff between building foreign reserves (that appears to build commercial import capacity) and paying off foreign debt, Peru's status quo additional food needs are lower than what they otherwise would have been. Peru and Ecuador are having record harvests of key commodities. Bolivia, in contrast, is having poor harvests. Colombia has no additional food needs. South America's status quo import needs are expected to reach 192,000 tons valued at \$33 million. But because the region may have difficulty maintaining record harvests by 1988/89, status quo additional import needs could reach 356,000 tons valued at \$54 million. Peru and Bolivia are chronically short of calories in their national diets. Nutrition-based needs for South America, however, exceed the maximum absorbable capacity of 546,000 tons valued at \$82 million in 1987/88 and 86,000 tons valued at \$120 million in 1988/89.

### South America basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Population	Per capita total use
----- 1,000 tons -----					
Major cereals				Thousand	Kilos
1980/81	3,898	1,016	2,589	55,803	116
1981/82	4,452	1,056	2,552	57,032	122
1982/83	4,486	1,089	2,496	58,319	121
1983/84	4,056	1,037	2,889	59,657	119
1984/85	4,779	864	2,367	61,046	114
1985/86	4,546	1,049	2,639	62,486	114
1986/87	4,464	1,081	3,119	63,955	119
1987/88	4,897	1,041		63,955	
1988/89	5,210	1,041		66,075	

### South America cereal use, additional food needs to support consumption, and stock adjustment

Commodity/year	Total use		Additional needs			
	Status quo	Nutrition-based	Status quo		Nutrition-based	
			Quantity	Value	Quantity	Value
Cereal equivalent						
Consumption						
1987/88	10,392	10,420	192	33	628	97
1988/89	10,744	10,778	356	54	937	133
Stock adjustment						
1987/88			0	0	57	7
1988/89			70	9	70	9
Total						
1987/88			192	33	685	104
1988/89			427	63	1,007	142
Maximum absorbable						
Cereal equivalent						
1987/88			192	33	546	82
1988/89			427	63	861	120

## Bolivia

Bolivia has been in a recession for several years, with real income falling 3 percent in 1986. Much of the government policy of 1986-87 has been aimed at controlling inflation, since Bolivia experienced hyperinflation in 1985.

Agricultural production fell for the second year in 1986, due mainly to the tightening of agricultural credit, low producer prices, and unfavorable weather in principal growing areas. Agricultural production is expected to decline again in 1987 by 3-5 percent. Decreases in output of potatoes, sugar, soybeans, corn, wheat, and rice will be partially offset by slight increases in the livestock and poultry sectors. Even with imports of wheat and some rice, Bolivia traditionally has been short of calories in its national diet.

The collapse of the world tin market and a decline in natural gas prices have sent Bolivian export earnings into a tailspin, since the two commodities alone comprise 85 percent of Bolivia's legal export earnings. The informal economy, including illegal narcotics trade, is estimated to be as large as legal export earnings. Foreign debt looms as a continuing problem. Total debt, including \$3.7 billion public debt, is measured at \$4.8 billion, more than the country's GDP. During 1986, Bolivia paid about half of its public debt service, but it has not made payments on a private debt since 1984.

If domestic production is on the low side in 1987/88 as it was in 1986/87, and there is some improvement in the trade balance, Bolivia would have status quo import needs of 353,000 tons grain equivalent. Status quo additional food needs would be 94,000 tons, valued at \$15 million. Nutrition-based food needs, however would reach 296,000 tons. If there is in fact some improvement in the agricultural sector and the trade balance in 1988/89, Bolivia could have almost no status quo additional food needs, but even then the country will continue to have nutrition-based needs of 220,000 tons valued at \$33 million.

### Bolivia basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----								
Major cereals						Kilos	Percent	
1980/81	509	77	261	529	225	141	Wheat	22.2
1981/82	642	93	151	461	360	150	Rice	5.2
1982/83	576	65	210	450	360	144	Corn	13.3
1983/84	420	41	375	503	310	142	Cassava	3.3
1984/85	694	23	254	510	410	156	Potatoes	7.6
1985/86	749	51	290	529	470	166	Total	51.7
1986/87	628	91	330	570	396	157		
1987/88	630	83						
1988/89	710	83						
Roots								
1980/81	1,006	0	0	1,006	0	188		
1981/82	1,180	0	0	1,180	0	215		
1982/83	1,187	0	0	1,187	0	212		
1983/84	497	0	0	497	0	87		
1984/85	943	0	0	943	0	160		
1985/86	1,070	0	0	1,070	0	178		
1986/87	1,011	0	0	1,011	0	164		
1987/88	954	0						
1988/89	1,050	0						

*Import requirements for Bolivia*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	630	936	1,146	306	516	403
1988/89	710	959	1,177	249	467	347
Roots						
1987/88	954	1,158	1,140	204	186	374
1988/89	1,050	1,186	1,194	136	144	310
Cereal equivalent						
1987/88	896	1,249	1,451	353	555	439
1988/89	1,000	1,279	1,496	279	497	367

*Financial indicators for Bolivia, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	1,046	1,111	290	106	756	6
1981	1,021	1,526	281	100	740	9
1982	919	1,137	287	156	632	9
1983	899	1,143	284	160	615	8
1984	848	1,111	320	252	528	5
1985	737	1,100	214	200	523	14
1986	653	1,367	246	200	407	
1987	755	1,050	245	200	530	9
1988	785	1,100	254	200	541	9

*Additional food needs to support consumption for Bolivia, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>1,000 tons</u>						
Cereal equivalent						
Consumption						
1987/88	259	41	94	15	296	47
1988/89	277	42	2	0	220	33
Stock adjustment						
1987/88			0	0	0	0
1988/89			2	0	2	0
Total						
1987/88			94	15	296	47
1988/89			4	1	222	33
Maximum absorbable						
Cereal equivalent						
1987/88			94	15	180	28
1988/89			4	1	91	14

## Colombia

Colombia's economy grew 5 percent in 1986, mostly because of a 35-percent increase in coffee export prices. Coffee comprises about 60 percent of Colombia's total exports, providing 20 percent of the agricultural GDP, and employing 35 percent of the country's agricultural work force. Coffee is a swing commodity for determining economic growth, despite attempts to diversify from it. Manufacturing and commercial sectors also recorded considerable growth. Agricultural production grew 3 percent and major crops, except rice and coffee, registered increases. Colombia held inflation to 21 percent in 1986, but food prices rose faster. Colombia officially held a tight rein on food imports, but contraband imports from Venezuela and Ecuador were at high levels.

Coffee exports of \$2.3 billion have added to Colombia's trade surplus and foreign reserves, which reached \$3.5 billion at the end of 1986.

The outlook for 1987 is more conservative. The value of coffee exports will decline some, since the fundamental factors in the world market for coffee--the decline in Brazil's production due to drought and concurrent smaller harvests in Africa--will not be present. Lower coffee export earnings will probably not be offset by increased earnings from coal, oil, and other minor exports, including cut flowers. Foreign reserves will also probably decline to \$2.5 - \$2.7 billion because of the cutback in export earnings. In the domestic economy, manufacturing could also slow and large planned government investment probably cannot match the shortfall. Agricultural performance in 1987 is expected to be similar to 1986 if weather is favorable.

Colombia has not been a recipient of food aid since the early 1970's and again will not be in 1987.

### Colombia basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	
Major cereals							Percent	
1980/81	2,130	668	445	2,613	78	108	Wheat	5.6
1981/82	2,121	552	622	2,682	65	109	Rice	15.5
1982/83	2,287	548	612	2,893	60	115	Corn	11.6
1983/84	2,109	494	624	2,782	6	107	Potatoes	4.3
1984/85	2,024	439	675	2,630	10	100	Plantains	7.2
1985/86	2,014	498	695	2,633	8	98	Milk	4.3
1986/87	1,918	566	710	2,687	10	98	Total	48.6
1987/88	2,120	497						
1988/89	2,487	497						
Roots								
1980/81	4,413	0	(36)	4,377	0	176		
1981/82	3,860	0	(160)	3,700	0	147		
1982/83	4,149	0	(27)	4,122	0	161		
1983/84	4,081	0	(31)	4,050	0	155		
1984/85	4,053	0	(27)	4,026	0	152		
1985/86	4,138	0	(34)	4,104	0	152		
1986/87	4,374	0	(44)	4,330	0	157		
1987/88	4,383	0						
1988/89	4,200	0						
Milk (whole)								
1980/81	2,342	0	10	2,352	0	95		
1981/82	2,553	0	10	2,563	0	102		
1982/83	2,798	0	46	2,844	0	111		
1983/84	2,941	0	50	2,991	0	115		
1984/85	3,090	0	25	3,115	0	117		
1985/86	3,128	0	63	3,191	0	118		
1986/87	3,306	0	32	3,338	0	121		
1987/88	3,380	0						
1988/89	3,300	0						

*Import requirements for Colombia*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
<b>Major cereals</b>						
1987/88	2,120	2,968	2,399	848	279	1,219
1988/89	2,487	3,022	2,463	535	(24)	909
<b>Roots</b>						
1987/88	4,383	4,153	4,186	(230)	(197)	464
1988/89	4,200	4,228	4,217	28	17	734
<b>Cereal equivalent</b>						
1987/88	3,432	4,210	3,664	778	232	1,225
1988/89	3,751	4,286	3,739	534	(13)	987
<b>Milk (dry equiv.)</b>						
1987/88	303	284	217	(19)	(86)	(4)
1988/89	296	289	218	(6)	(78)	9

*Financial indicators for Colombia, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	5,860	6,231	573	4,831	5,287	6
1981	5,015	7,217	836	4,801	4,179	8
1982	4,973	8,198	1,108	3,861	3,865	8
1983	4,103	7,270	1,246	1,901	2,858	11
1984	5,328	7,028	1,312	1,364	4,016	6
1985	4,824	6,678	1,407	1,595	3,417	7
1986	6,162	6,516	1,447	2,696	4,715	
1987	6,022	6,583	1,602	2,600	5,210	8
1988	5,500	6,220	1,120	2,500	5,170	8

*Additional food needs to support consumption for Colombia, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent						
Consumption						
1987/88	1,929	271	0	0	0	0
1988/89	2,001	269	0	0	0	0
Stock adjustment						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88			0	0	0	0
1988/89			0	0	0	0
Milk						
1987/88	8	10	0	0	0	0
1988/89	8	10	0	0	0	0
Total			281	0	0	0
1987/88			278	0	0	0
1988/89						

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## *Ecuador*

Ecuador is going through difficult economic times. Severe tremors in its northeastern region in March damaged the country's major pipeline linking the oil fields in the east to the Pacific port of El Balao. The damage halted Ecuador's petroleum exports for several months, and was the latest problem to befall Ecuador. Petroleum had represented more than 60 percent of Ecuador's export earnings, but the collapse of international petroleum prices in 1986 had already cut these earnings to \$2.2 billion and economic growth (real GDP) to only 1 percent. Inflation has ranged from 20 to 25 percent in the 1980's and was 27 percent in 1986.

Agriculture has been a bright spot in Ecuador's economy, increasing 6 percent in 1986. Corn and rice production were at record levels, with rice available for export. However, wheat production remains at 19,000 tons and the bulk of needs is imported.

In the foreign sector, exports declined by one-fourth, but Ecuador still had a trade surplus. The current account declined sharply in 1986, as did foreign reserves. Ecuador's increased exports of bananas and coffee and an 84-percent increase in shrimp exports aided in foreign exchange earnings (cocoa beans declined) but these earnings were not sufficient to overcome the fall in petroleum export earnings.

Ecuador's foreign debt rose to \$8.2 billion in 1986. Debt service amounted to nearly half of annual exports. Ecuador had already gone through a debt rescheduling negotiation before 1987. Even before the earthquake, Ecuador was planning another round of debt rescheduling, and in early 1987, the country temporarily suspended interest payments on its foreign debt.

Ecuador continues to be a steady customer for wheat, but other food needs are basically met domestically. For 1987/88 and 1988/89, food needs will be mostly determined by Ecuador's weakened financial condition. There is no hope that exports will recover in 1987, but they may improve somewhat in 1988. Because of the continued large debt service and declining trade balance, Ecuador will have smaller resources available for commercial imports. Ecuador will also have difficulty sustaining the growth in agriculture, particularly in rice, that characterized 1986/87.

This assessment would put cereal equivalent import requirements at 371,000 tons in 1987/88 and 412,000 tons in 1988/89. The bulk of the imports would be met by commercial channels, as in the past. For 1987/88, status quo additional food needs could reach 99,000 tons, valued at \$19 million. Nutrition-based requirements could reach 132,000 tons, valued at \$25 million, if nutritionally adequate diets were to be met. By 1988/89, status quo additional needs could reach 185,000 tons valued at \$33 million. Nutrition-based needs could reach 216,000 tons valued at \$39 million. If adjustments were made to maintain the current level of stocks, an additional 6,000 tons valued at \$1 million would be required.

*Ecuador basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
<u>1,000 tons</u>								<u>Kilos</u>
Major cereals								Percent
1980/81	453	71	322	524	171	87	Wheat	9.4
1981/82	533	151	254	575	197	94	Rice	12.1
1982/83	418	166	285	540	207	88	Corn	8.3
1983/84	429	122	368	604	241	97	Cassava	1.9
1984/85	577	74	345	636	238	98	Potatoes	2.8
1985/86	528	122	444	665	245	99	Plantains	4.3
1986/87	594	184	367	696	230	98	Milk	7.1
1987/88	555	219					Total	45.9
1988/89	540	219						
Roots								
1980/81	1,246	0	0	1,246	0	156		
1981/82	1,324	0	20	1,344	0	164		
1982/83	1,453	0	0	1,453	0	172		
1983/84	1,321	0	0	1,321	0	152		
1984/85	1,456	0	0	1,456	0	163		
1985/86	1,424	0	0	1,424	0	155		
1986/87	1,482	0	0	1,482	0	157		
1987/88	1,480	0						
1988/89	1,490	0						
Milk (whole)								
1980/81	758	0	9	767	0	96		
1981/82	765	0	10	775	0	94		
1982/83	893	0	12	905	0	107		
1983/84	931	0	15	946	0	109		
1984/85	946	0	0	946	0	106		
1985/86	987	0	0	987	0	108		
1986/87	1,000	0	0	1,000	0	106		
1987/88	1,000	0						
1988/89	1,100	0						

*Import requirements for Ecuador*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	555	926	920	371	365	380
1988/89	540	952	943	412	403	422
Roots						
1987/88	1,480	1,480	1,626	(0)	146	143
1988/89	1,490	1,521	1,660	31	170	178
Cereal equivalent						
1987/88	985	1,355	1,393	371	408	386
1988/89	972	1,393	1,425	421	453	437
Milk (dry equiv.)						
1987/88	90	90	96	1	6	2
1988/89	99	93	99	(6)	1	(4)

*Financial indicators for Ecuador, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	2,975	3,647	559	1,013	2,416	5
1981	3,000	4,027	922	632	2,078	6
1982	2,734	3,949	1,107	304	1,627	7
1983	2,688	2,816	529	645	2,159	6
1984	2,972	3,240	991	611	1,981	6
1985	3,260	3,370	939	718	2,321	5
1986	2,575	3,290	1,000	644	1,575	
1987	2,375	3,494	726	400	1,329	6
1988	2,850	3,450	1,500	450	1,090	6

*Additional food needs to support consumption for Ecuador, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	Million \$	1,000 tons	Million \$	1,000 tons	Million \$
Cereal equivalent						
Consumption						
1987/88	252	48	99	19	132	25
1988/89	216	39	185	33	216	39
Stock adjustment						
1987/88			(0)	(0)	(0)	(0)
1988/89			6	1	6	1
Total						
1987/88			99	19	132	25
1988/89			191	34	222	40
Milk						
1987/88	3	4	0	0	0	0
1988/89	3	4	0	0	0	0
Total						
1987/88		52		19		25
1988/89		43		34		40
Maximum absorbable						
Cereal equivalent						
1987/88			99	19	110	21
1988/89			191	34	206	37
Milk						
1987/88			0	0	0	0
1988/89			0	0	0	0
Total						
1987/88				19		21
1988/89				34		37

Commercial import capacity surplus to additional food needs in individual commodity groups offsets some additional cereal needs.

## Peru

Peru's economy recovered in 1986 from several years of decline. However, per capita real income was still no higher than it was a decade ago. In 1986, real economic growth was estimated at 9 percent and was the direct result of a boom in industry and construction. Mining, however, continued to decline because of the drop in international prices for mineral products and hydrocarbons.

Much of this progress, though fragile, was due to President Garcia's policies to stabilize and reactivate the economy by establishing strict price controls and reducing nonessential government spending to fight inflation. Salaries were increased to promote consumption and domestic growth. In 1986, President Garcia unilaterally decided to halt repayment of foreign debt, which totaled \$13.7 billion or 81 percent of GDP, \$3 billion of which represented principal and interest payments that were past due. The refusal to pay led the IMF to declare Peru ineligible for additional assistance. The Peruvian Government redirected foreign exchange to local investment and has had to take a protectionist line in formulating trade policy to conserve foreign reserves.

Last year's general economic growth stimulated food demand. Poultry exports had to be canceled to provide much needed meat at home, and rice, which also was in short supply because of drought in the principal producing areas, was imported. To meet its needs, Peru purchased rice from such diverse sources as PRC, North Korea, Ecuador, Venezuela and the United States.

Prospects for the overall economy are not as good in 1987. Mounting central government budget deficits and government pledges to increase wages faster than inflation, low prices for Peru's mineral exports, capital flight, and the lack of new external credits will limit growth of the GDP and contribute to Peru's balance of payments problem in 1987 and 1988. The agricultural sector is one bright spot in the economy. Prospects for rice production are much improved. Heavy rains in the northern coastal area resulting from the 1987 El Nino have improved the supply of irrigation water in the major dams. Some improvement in grain production is forecast for 1987/88, mostly because of a record rice crop. In the financial sector, as long as Peru maintains its position of not paying foreign debt, more foreign reserves are available than otherwise would be for commercial grain purchases. Under these circumstances, Peru's status quo additional food needs measure zero in 1987/88 but nutrition-based cereal imports, before stock adjustments, are 200,000 tons valued at \$25 million. To rebuild stocks, nutrition-based imports would measure 257,000 tons valued as \$33 million. In 1988/89, additional food needs are based on Peru's ability to sustain growth in grain production. If production falls back to trend, Peru could be faced with status quo additional food needs of 170,000 tons valued at \$21 million and possible nutrition-based needs of 501,000 tons valued at \$61 million in 1988/89. If stock adjustments were made to maintain stock levels, an additional 62,000 tons valued at \$8 million would be required.

*Peru basic food data*

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
----- 1,000 tons -----							Kilos	Percent
Major cereals								
1980/81	806	200	1,561	1,856	451	131	Wheat	17.6
1981/82	1,156	260	1,525	2,131	500	145	Rice	13.5
1982/83	1,205	310	1,389	1,924	600	135	Corn	10.0
1983/84	1,098	380	1,522	2,122	550	139	Cassava	1.9
1984/85	1,484	328	1,093	2,034	493	128	Potatoes	6.4
1985/86	1,255	378	1,210	2,085	518	128	Plantains	2.9
1986/87	1,324	240	1,712	2,284	750	145	Total	52.3
1987/88	1,592	242						
1988/89	1,473	242						
Roots								
1980/81	2,190	0	(50)	2,140	0	121		
1981/82	2,452	0	(50)	2,402	0	133		
1982/83	2,511	0	0	2,511	0	135		
1983/84	1,991	0	0	1,991	0	104		
1984/85	2,222	0	0	2,222	0	113		
1985/86	2,140	0	20	2,160	0	107		
1986/87	2,204	0	0	2,204	0	106		
1987/88	2,204	0						
1988/89	2,235	0						

*Import requirements for Peru*

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
<u>1,000 tons</u>						
Major cereals						
1987/88	1,592	2,874	2,944	1,282	1,352	1,580
1988/89	1,473	3,042	3,098	1,569	1,625	1,875
Roots						
1987/88	2,204	2,428	3,270	224	1,066	785
1988/89	2,235	2,570	3,442	335	1,207	928
Cereal equivalent						
1987/88	2,233	3,578	3,912	1,346	1,680	1,728
1988/89	2,122	3,786	4,118	1,664	1,995	2,060

*Financial indicators for Peru, actual and projected*

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
<u>Million dollars</u>						
1980	4,851	4,923	1,511	1,979	3,340	10
1981	4,223	6,112	1,094	1,199	3,129	10
1982	4,186	5,962	1,532	1,350	2,654	12
1983	3,842	4,933	741	1,365	3,101	9
1984	3,974	4,353	582	1,630	3,392	6
1985	3,791	3,862	299	1,827	3,492	5
1986	3,626	4,134	500	1,430	3,126	
1987	3,814	4,150	500	1,500	3,313	7
1988	4,000	4,150	500	1,200	3,199	7

*Additional food needs to support consumption for Peru, with stock adjustment*

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
<u>1,000 tons</u>						
Cereal equivalent						
Consumption						
1987/88	1,480	188	0	0	200	25
1988/89	1,494	182	170	21	501	61
Stock adjustment						
1987/88			0	0	57	7
1988/89			62	8	62	8
Total						
1987/88			0	0	257	33
1988/89			232	28	564	69

## **GLOSSARY OF TERMS**

<b>Status quo</b>	A measure of per capita food availability in recent years
<b>Nutrition-based</b>	Per capita food availability sufficient to meet internationally accepted minimum caloric standards
<b>Cereal equivalent</b>	Cereal required to meet both cereal shortfalls and cereal equivalent
<b>Import requirement</b>	Imports necessary to achieve either status quo or nutrition-based food availability, including both commercial and concessional food shipments
<b>Tons</b>	<b>Metric tons</b>
<b>Dollars</b>	U.S. dollars unless otherwise specified
<b>GNP</b>	<b>Gross national product</b>
<b>GDP</b>	<b>Gross domestic product</b>

## APPRAISING ADDITIONAL FOOD NEEDS

Many factors could be considered in appraising approaches to distributing P.L. 480 concessional food supplies among countries. These range from quantitative factors such as measures of relative needs, to more qualitative factors such as recipient countries' efforts to maintain budgetary discipline and to implement self-help policies encouraging greater local production.

A detailed discussion and comparision of qualitative factors lies beyond the scope of this study as it is currently defined. This section offers one simple quantitative method for comparing food needs across countries. Additional food needs are calculated in per capita terms and countries are ranked according to the magnitude of per capita needs. This per capita ranking of needs provides a measure of the relative severity of additional food needs across countries. The analysis presented here merely represents possible distributions and is not to be construed as a decision on food allocation.

Several countries with the same absolute level of additional food needs have quite different per capita needs. The wide margin between per capita measures reflects differences in the severity of the food problems these countries face and the manner in which the problem has been addressed. <sup>1/</sup>

The pronounced disparity between the status quo and the nutrition-based results also points up the differences inherent in the the two procedures. Countries like Lebanon, Liberia, Mauritania and Mozambique rank high in both status quo and nutrition-based per capita food needs. As a general rule, this means that food availability has in the recent past been sustained near the level needed to achieve the FAO recommended minimum diet, either by commercial imports that are no longer affordable, or by food aid. Liberia, Mauritania, and Mozambique have long been recipients of food aid. Lebanon continues to lack earlier commercial import capacity.

Countries like Bolivia, Burundi, Cambodia and Mali have per capita nutrition-based needs much higher than status quo needs. This wide margin indicates a serious gap between recent per capita food intake levels and the supplies needed to meet FAO recommended minimum caloric levels. This gap has not been filled in the recent past by commercial imports, or by food aid.

Countries like Egypt and Djibouti have per capita status quo needs much higher than nutrition-based needs. In these countries, domestic production, commercial imports, or food aid donations have pushed per capita intake levels close to or above the FAO minimum. Food assistance to these countries using the status quo estimates would support consumption above the FAO recommended minimum.

Nineteen of the 69 countries included in the report have neither status quo nor nutrition-based additional food needs. Twenty two have no nutrition-based needs as compared to twenty seven in 1986/87 and thirteen in 1984/85.

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1/ Adjustments were made in both the status quo and nutrition-based indicators to compensate for the different proportion of the diet made up by the staples analyzed in the report. The percentage of the diet covered--derived from the 1979-81 FAO Food Balance Sheets--must be factored into the estimates to prevent biasing per capita aid needs upward or downward for countries with a large or small proportion of their diets made up of the staples analyzed. Other things being equal, a country with 75 percent of its staple diet covered would have a greater per capita additional food need than a country with 50 percent of its staple diet covered. To incorporate this adjustment, per capita food needs are calculated as follows: estimated additional food need (\$)/(Percent of diet comprised by commodities analyzed in this report/group mean percent of diet covered)/population.

*Per Capita Food Aid Needs, 1987/88 - Ranked*

Country	Per capita		Per capita	
	Status quo	Nutrition-based	Dollars	Rank
	Dollars <sup>1/</sup>	Rank	Dollars	Rank
Egypt	10.97	8	0.00	49
Morocco	0.00	68	0.00	54
Tunisia	0.00	62	0.00	67
Benin	0.00	54	1.38	44
Burkina	0.00	48	0.00	53
Cameroon	0.87	42	0.65	46
Cape Verde	40.46	2	20.23	12
Chad	1.65	37	23.97	7
Gambia	0.00	59	0.00	68
Ghana	0.00	66	4.72	34
Guinea	4.10	26	16.01	19
Guinea-Bissau	0.00	45	0.00	51
Liberia	12.69	7	23.70	8
Mali	0.00	49	19.51	14
Mauritania	34.56	3	27.98	5
Niger	3.20	29	13.38	21
Senegal	1.81	35	2.11	42
Sierra Leone	6.14	19	7.98	29
Togo	2.29	31	5.73	32
Angola	5.56	23	6.12	31
Central African Republic	2.20	33	2.93	40
Congo	1.19	40	4.78	33
Equatorial Guinea	0.00	58	0.00	69
Zaire	1.81	34	2.66	41
Burundi	0.95	41	34.15	2
Djibouti	17.56	5	0.00	62
Ethiopia	5.90	21	18.62	15
Kenya	4.25	25	16.61	17
Rwanda	8.85	12	32.93	3
Somalia	7.71	15	21.81	9
Sudan	5.58	22	8.33	28
Tanzania	1.54	38	0.00	58
Uganda	0.00	44	3.83	37
Botswana	0.00	67	0.00	56
Comoros	4.07	27	20.33	11
Lesotho	9.06	11	15.85	20
Madagascar	1.73	36	0.86	45
Malawi	7.23	17	12.80	22
Mauritius	0.00	53	0.00	66
Mozambique	10.89	9	29.52	4
Swaziland	0.00	65	0.00	48
Zambia	7.58	16	17.68	16
Zimbabwe	0.00	47	0.00	65

1/ The per capita annual dollar value for the sum of all commodities.

*Per Capita Food Aid Needs, 1987/88 - Ranked, continued*

Country	Per capita		Per capita	
	Status quo	Nutrition-based	Dollars	Rank
Lebanon	\$6.71		47.68	1
North Yemen	20.10		12.00	23
South Yemen	3.00		4.00	36
Afghanistan	8.32		9.07	26
Bangladesh	1.24		8.51	27
India	0.00		0.59	47
Nepal	0.00		11.32	25
Pakistan	0.00		0.00	61
Sri Lanka	5.14		3.47	38
Cambodia	8.46		25.39	6
Indonesia	0.00		0.00	55
Laos	0.00		0.00	63
Philippines	0.00		0.00	57
Vietnam	3.21		1.74	43
Dominican Republic	0.00		0.00	59
Haiti	10.39		16.41	18
Jamaica	0.00		0.00	50
Cost Rica	0.00		0.00	52
El Salvador	16.01		21.64	10
Guatemala	0.00		3.38	39
Honduras	2.29		11.47	24
Nicaragua	0.00		0.00	60
Bolivia	6.45		20.20	13
Colombia	0.00		0.00	64
Ecuador	6.01		7.91	30
Peru	0.00		4.14	35

*Ranked difference in per capita additional food needs, 1987/88*

Country	Status quo	Nutrition-based	Difference	Rank
----- Dollars -----				
Burundi	0.95	34.15	-33.20	1
Rwanda	8.85	32.93	-24.08	2
Chad	1.65	23.97	-22.32	3
Mali	0.00	19.51	-19.51	4
Mozambique	10.89	29.52	-18.63	5
Cambodia	8.46	25.39	-16.93	6
Comoros	4.07	20.33	-16.26	7
Somalia	7.71	21.81	-14.09	8
Bolivia	6.45	20.20	-13.75	9
Ethiopia	5.90	18.62	-12.72	10
Kenya	4.25	16.61	-12.36	11
Guinea	4.10	16.01	-11.90	12
Nepal	0.00	11.32	-11.32	13
Liberia	12.69	23.70	-11.00	14
bNiger	3.20	13.38	-10.18	15
Zambia	7.58	17.68	-10.10	16
Honduras	2.29	11.47	-9.17	17
Bangladesh	1.24	8.51	-7.27	18
Lesotho	9.06	15.85	-6.79	19
Haiti	10.39	16.41	-6.02	20
El Salvador	16.01	21.64	-5.63	21
Malawi	7.23	12.80	-5.57	22
Ghana	0.00	4.72	-4.72	23
Peru	0.00	4.14	-4.14	24
Uganda	0.00	3.83	-3.83	25
Congo	1.19	4.78	-3.58	26
Togo	2.29	5.73	-3.44	27
Guatemala	0.00	3.38	-3.38	28
Sudan	5.58	8.33	-2.75	29
Ecuador	6.01	7.91	-1.90	30
Sierra Leone	6.14	7.98	-1.84	31
Benin	0.00	1.38	-1.38	32
South Yemen	3.00	4.00	-1.00	33
Zaire	1.81	2.66	-0.85	34
Afghanistan	8.32	9.07	-0.75	35
Central African Republic	2.20	2.93	-0.73	36
India	0.00	0.59	-0.59	37
Angola	5.56	6.12	-0.56	38
Senegal	1.81	2.11	-0.30	39
Mauritius	0.00	0.00	0.00	40
Laos	0.00	0.00	0.00	41
Philippines	0.00	0.00	0.00	42
Tunisia	0.00	0.00	0.00	43
Morocco	0.00	0.00	0.00	44

*Ranked difference in per capita additional food needs, 1987/88, continued*

Country	Status quo	Nutrition-based	Difference	Rank
----- Dollars -----				
Costa Rica	0.00	0.00	0.00	45
Indonesia	0.00	0.00	0.00	46
Guinea-Bissau	0.00	0.00	0.00	47
Swaziland	0.00	0.00	0.00	48
Colombia	0.00	0.00	0.00	49
Zimbabwe	0.00	0.00	0.00	50
Botswana	0.00	0.00	0.00	51
Pakistan	0.00	0.00	0.00	52
Nicaragua	0.00	0.00	0.00	53
Equatorial Guinea	0.00	0.00	0.00	54
Jamaica	0.00	0.00	0.00	55
Gambia	0.00	0.00	0.00	56
Burkina	0.00	0.00	0.00	57
Dominican Republic	0.00	0.00	0.00	58
Cameroon	0.87	0.65	0.22	59
Madagascar	1.73	0.86	0.86	60
Vietnam	3.21	1.74	1.47	61
Tanzania	1.54	0.00	1.54	62
Sri Lanka	5.14	3.47	1.67	63
Mauritania	34.56	27.98	6.58	64
North Yemen	20.10	12.00	8.11	65
Lebanon	56.71	47.68	9.02	66
Egypt	10.97	0.00	10.97	67
Djibouti	17.56	0.00	17.56	68
Cape Verde	40.46	20.23	20.23	69

# METHODOLOGICAL NOTES

## *Calculating Food Needs*

This report provides two measures of total consumption of major food staples and corresponding estimates of security stock levels for food grains. The framework used for calculating that portion of such consumption which may not be met by domestic production or commercial imports, total and by commodity, is outlined below in algebraic form. These unmet food requirements are henceforth referred to as additional food needs. All quantities in the report are in thousand metric tons and all values are in millions of U.S. dollars.

The first step in the process of calculating additional food needs is to estimate import requirements to support consumption:

$$(1) \quad \text{IRC} = \text{DR} - \text{PR}$$

where:

IRC = import requirements to support consumption

DR = total domestic requirements (total use)

PR = forecast total domestic production (ERS)

Import requirements should not be confused with forecasts of imports for two important reasons. First, the factors that determine actual total use (domestic requirements) may be much different than those used in deriving the status quo and nutrition-based estimates of total requirements used in this report. The only demand factor that governs import requirements is population growth. As such, equation (1) above is merely a gap between forecast production and two measures of consumption (described below) that are purposely derived in such a way as to be directly comparable across a wide range of countries. Second, production is implicitly assumed to be independent of import requirements as defined above, whereas actual imports and production are certainly related.

Stocks are held constant. A discussion of the food security adjustment for stocks appears below.

The second step in the procedure separates the import requirement into the portion that may be purchased commercially and the portion that may be unmet. Estimates of additional food needs are the differences between total import requirements and those imports that a country can afford to purchase commercially in world commodity markets, herein referred to as the commercial import capacity:

$$(2) \quad \text{AFNC} = \text{IRC} - \text{CIC}$$

where:

AFNC = additional food needs to support consumption

CIC = commercial import capacity

The last step in estimating additional food needs involves adding an estimated stock adjustment to additional food needs to support consumption:

$$(3) \quad \text{AFNT} = \text{AFNC} + \text{SA}$$

where:

AFNT = total additional food needs

SA = stock adjustment

## ***Commodity Coverage***

The commodities included in the food needs assessment for each country were selected to cover the important food staples in the diet in each country. An attempt was made to include at least two-thirds of the average daily caloric intake in each country to ensure that assumptions regarding domestic food availability and requirements in each country are representative of the total food supply situation. For a few countries, less than two-thirds of the diet is covered. This is due either to great diversity in the average diet; to limited availability of current, reliable data; or to both. Coverage is more complete in Asian and African countries where relatively few food staples account for the bulk of the average diet, and less complete in Latin American countries, where diets are more diversified. The specific commodities included in the food needs assessment for each country and their share in daily per capita caloric intake are listed in the tables.

## ***Food Substitution Assumption***

Assumptions regarding the substitutability of foods in the diet are necessary in assessing food needs because shortages in some food items can be compensated for by surpluses or imports of others. Also, some food items that figure prominently in diets in low-income countries, particularly roots and tubers, are not commonly traded and, therefore, are not available to fill import and additional food requirements.

In this report, all cereals (including wheat, milled rice, and coarse grains) are considered substitutable on a one-for-one basis. Roots and tubers (cassava, potatoes, bananas, and plantains are also included) are assumed substitutable for cereals on a caloric equivalent basis. The treatment of pulses depends on their importance and role in the diet.

## ***Calculation of Import Requirements***

Import requirements are reported in the text for individual countries in quantity only. Additional food needs appear as both quantities and values. The generic calculations for import requirements and additional food needs are based on the following variables:

AFNCQ = additional food needs to support consumption, quantity;

AFNCV = additional food needs to support consumption, value;

IRCQ = food import requirements to support consumption, quantity;

CICV = commercial food import capacity, value;

CICQ = commercial food import capacity, quantity.

The following subscripts are added to the above: t denotes total additional food needs and import requirements for an individual country (value only); j denotes one of four major commodity groupings; k denotes the number of major commodity groups included for a single country; and i denotes individual commodities within one of the major groups.

The general framework for calculating  $IRCV_t$ ,  $IRCV_k$  and  $IRCQ_k$  is as follows:

$$(4) \quad IRCV_t = \sum_{j=1}^k IRCV_j;$$

subject to

$$IRCV_j > 0$$

$$(5) \quad \text{IRCV}_j = \text{IRCQ}_j \times \text{IUV}_j$$

where:

$\text{IUV}$  = estimated import unit values in dollars (see section below on import unit value calculations); and for the cereal equivalent group only:

$$(6) \quad \text{IRCQ}_j = \sum_{i=1}^n (\text{IRCQ}_i \times \text{WE}_i)$$

where:

$\text{WE}$  = wheat-equivalent conversion factors for a commodity if the commodity is a noncereal and is assumed to be substitutable for cereals on a caloric-equivalent basis. If a commodity group is not substitutable with cereals (ie., vegetable oils, milk, pulses) then  $\text{IRCQ}_j$  is not converted to a wheat equivalent.

The procedures used for calculating  $\text{IRCQ}$  in status quo and nutrition-based estimates are described in separate sections below. The common structure for both of these  $\text{IRCQ}$  calculations is as follows:

$$(7) \quad \text{IRCQ}_i = \text{DR}_i - \text{PR}_i$$

$$(8) \quad \text{DR}_i = \text{DRNF}_i + \text{DRF}_i$$

where:

$\text{DR}$  = domestic requirement (quantity);

$\text{DRNF}$  = domestic requirement for nonfeed use (quantity);

$\text{DRF}$  = domestic requirement for feed use (quantity; see section below on calculating feed use)

The procedure for calculating  $\text{CICV}_t$  is:

$$(9) \quad \text{CICV}_t = \sum_{j=1}^k \text{CICV}_j$$

The method of calculating  $\text{CICV}_j$  and  $\text{CICQ}_j$  is described in a separate section below.

The following points should be noted on the treatment and interpretation of negative values in import requirements and additional food needs calculations:

A negative import requirement for a commodity group in quantity and value terms ( $\text{IRCQ}_j < 0$ ,  $\text{IRCV}_j < 0$ ) implies a 'surplus' in domestic production above what is needed to support consumption. The surplus is, by definition, not substitutable for any shortfalls in any of the other commodity groups. For example, a surplus vegetable oil import requirement may not offset a deficiency in grains.

While the above negative values, where they occur, are carried in the tables containing estimates of import requirements to support consumption, they are factored in as zeros when calculating additional food needs to support consumption for that commodity group ( $\text{AFNCQ}_j$ ,  $\text{AFNCV}_j$ ), and in calculating country total import requirements ( $\text{IRCV}_t$ ) and additional food needs ( $\text{FAN}_t$ ). Inclusion of the negative value would imply exports of the calculated surplus (and an addition to commercial import capacity). If the country is a traditional exporter of the surplus commodity, the impact of the export earnings on additional food needs is already accounted for

in the commercial import capacity calculation. If the country is not a traditional exporter of the surplus commodity, imposition of an export requirement for the purpose of food need calculations would be an unnecessarily rigid means of assessment.

When a negative additional food need value occurs for a commodity group ( $AFNCV_j < 0$ ), this calculated surplus is made to offset any positive additional food need ( $AFNCV_j > 0$ ) for other commodity groups in that country. This is appropriate because of conditions imposed on the calculating of additional food needs for commodity groups ( $AFNCQ_j$ ,  $AFNCV_j$ ) described above. Negative unmet food need values imply a surplus of estimated commercial import capacity in a food group; the surplus can appropriately be diverted to purchases in another food group without violating the assumption that one food group cannot substitute for another. These situations are footnoted in the country tables. Negative country additional food need totals imply a surplus in commercial import capacity ( $CICV_t$ ), over and above what imports are needed to support consumption in all commodity groups ( $IRCV_t$ ) in the country. They do not imply food available for export commercially or concessionally. Such negative values, when they occur, are shown as zeros in the additional food need tables. However,  $AFNCV_t$ , whether positive or negative, is the value used in the additional food need rankings provided in the section of this report entitled "Appraising Additional Food Needs."

With estimates derived in this way, the larger the gap between domestic food availabilities and food requirements, or the smaller the capacity to import food commercially, the larger the additional food need. Other things being equal, gains in domestic production or lower levels of feed use will reduce estimated import requirements and these additional food needs to support consumption. To the extent that the food staples selected for a country are judged to be substitutable, any estimated food surpluses are applied to filling the gap for commodities estimated to be in deficit. Also, for any commodity group where a surplus commercial import capacity exists, that surplus is applied to any estimated deficits for other commodity groups. No allowance is made for the effects of stock adjustments, positive or negative, on import requirements or additional food needs. The need for stock adjustments and their impact on additional food needs are estimated separately, as described in the following sections.

### ***Calculating Status Quo Import Requirements***

Status quo import requirements for a particular country, commodity, and year are calculated, following equation (7) in the previous section, as:

$$(10) \quad IRCQ = (DRNF + DRF) - (PR)$$

where DRF and PR are as defined elsewhere. Status quo estimates of domestic requirements for nonfeed use (DRNF) are calculated as:

$$(11) \quad DRNF = P \cdot PCC_B / 100$$

where:

$P$  = population in millions;

$PPC$  = per capita nonfeed consumption of a commodity in

subscript  $B$  = the base period years for which  $PPC$  is averaged.

One or more years of unusually low (or unusually high) per capita food availability during the base period will raise (lower) import requirements. A simple average of the most recent 4 years gives a per capita food availability which fluctuates sharply. To stabilize estimates of per capita food availability, they are calculated as the mean of the most recent 4 years that deviate less than one standard deviation from the mean of the most recent 8 years of record.

## **Calculating Nutrition-based Import Requirements**

The general form of the nutrition-based import requirement equation is the same as shown in (7) above. However, because the nutrition-based method uses a fixed minimum consumption norm rather than the status quo, it is necessary to assess domestic availabilities and domestic nonfeed requirements on a net basis--net of milling, seed, waste, and nonfood use. With these adjustments, the nutrition-based import requirement calculations for a particular country, commodity, and year are as follows:

$$(12) \quad \text{IRCQ} = ([\text{DRNF}_m - \text{DA}_m]/\text{MR}) + \text{DRF}$$

$$(13) \quad \text{DRNF}_m = (\text{PCCAL}_B/\text{PCCAL}_T) * (\text{RMPCCAL}_T) * (\text{CALCF}_m) * (365) * (\text{P})/1000$$

$$(14) \quad \text{DA}_m = \frac{[(\text{PR}) * (1 - (\text{NFUR} + \text{WR} + \text{AUR})) - (\text{SR} * \text{PR}) - \text{DRF}] * (\text{MR})}{(1 - \text{NFUR}_m + \text{WR}_m)}$$

The variables **IRCQ**, **DRNF**, **DRF**, **P**, and **PR** have been described elsewhere. The new variables in the nutrition-based equation are:

**DA** = domestic availability;

**MR** = milling/extraction rate of a particular commodity (source: FAO);

**DRF** = feed use as calculated in the section below;

The subscript **m** indicates a variable expressed in milled (extracted) terms;

**PCCAL** = daily per capita consumption of a particular commodity in calories (source: FAO and ERS; see notes below);

**RMPCCAL** = recommended minimum total daily caloric intake (source: FAO);

**CALCF** = kilograms per capita, assumes base period average caloric intake (source: FAO);

**NFUR** = average rate of utilization for nonfood purposes for a particular commodity during 1979-81 (source: FAO);

**WR** = rate of waste for a particular commodity (source: FAO);

**AUR** = average rate of use of alcoholic beverages manufactured from a particular commodity during 1971-81 (source: FAO); and

**SR** = average rate of seed use from domestic production for a particular commodity during 1979-81 (source: FAO).

Thus, in the nutrition-based method, domestic requirements for nonfeed use (DRNF) in milled/extracted terms are calculated by first determining commodity caloric shares in the total diet in a base period and, on the basis of those shares, determining the per capita caloric amounts needed to achieve the FAO recommended minimum. These per capita daily caloric estimates are then converted to annual countrywide requirements in terms of tons of milled commodity. Domestic availability (DA) is calculated in milled terms by adjusting coarse domestic production (PR) for nonfood use, waste, alcoholic beverage use, and seed use, and milling/extraction losses using rates derived from the FAO food balances. Import requirements in coarse terms are then computed as the unmilled difference between the domestic requirement for nonfeed use (DRNF) and domestic availability (DA) plus requirements for feed use (DRF). It is important to note that the import requirement estimates derived from this procedure do not allow for reductions for waste, nonfood use, or alcoholic beverage and seed use from imported commodities; only reductions for feed use and milling/extraction are accommodated.

The appropriate measure of coarse domestic production (PR) for the nutrition-based method is identical to that used in the status quo method. The calculation of import requirements (IRCQ) in coarse terms is shown above, and the appropriate calculation of coarse domestic requirements (DR) for the nutrition-based method is:

$$(15) \quad DR = PR + IRCQ.$$

The following points should be noted on procedures used in the nutrition-based calculations:

1. Calories available from a commodity are derived using the 1979-81 FAO food balance data for a particular commodity and country. Where significant differences exist between ERS and FAO production, trade, or consumption, ERS revises the caloric estimates for consistency with ERS supply and use data.
2. The base period used in calculating each commodity's caloric share in the diet in each country is 1979-81, unless the average suggests use of 1 of the 3 years individually.
3. Calculations of coarse per capita consumption from the targeted coarse total use and population data provided may yield slightly different levels for 1987/88 and 1988/89. They may vary from year to year because no nonfood use (other than feed use), waste, alcoholic beverage use, or seed use is deducted from imports and the mix of imports and domestic availability may change from year to year. At the levels shown for targeted coarse total use and population, however, actual per capita consumption of a commodity will be identical in both years.
4. For many countries, the proportion of feed use implied in the 1979-81 FAO food balances is very similar to that implied by the estimates of feed use (DRF) in this report. Where significant differences occurred, adjustments were made in the base-period human consumption levels ( $PCCAL_{iB}$  and  $PCCAL_{TB}$ ) for the purposes of the nutrition-based calculations. These alterations were judged necessary to allow the use of a common assumption on feed use for both methods, and to prevent differences in feed assumptions from interfering with the interpretation of the two food need estimates.
5. Because rice is normally traded on a milled (as opposed to paddy) basis, and all rice production, stock, and trade data presented in this report are on a milled basis, the nutrition-based import requirement equations used for rice are modified to accommodate this difference.

Import requirements estimated this way would provide enough food per person to meet the FAO recommended minimum daily caloric intake level. The FAO caloric standards have been criticized for overestimating minimum requirements and the FAO food balance assumptions used in the calculations have also been criticized for their accuracy. In regard to the caloric standards, the key issue is whether they introduce any bias across the countries examined. Because the caloric standards are derived using a similar methodology across all countries, it is unlikely that significant bias is introduced. In any event, errors in absolute levels of estimates do not prevent the use of those estimates in generating country rankings.

The FAO food balance assumptions are considered to be of comparable reliability for all countries covered, and the methods used for calculating food balances are consistent. Therefore, it is considered unlikely that significant bias across countries is introduced by their use.

#### ***Calculating Feed Use***

The same levels of estimated feed use are included in the calculation of both the status quo and nutrition-based estimates of total and import requirements. The procedure used to calculate feed use (DRF) of a particular commodity in a given country and year is:

$$(16) \quad DRF = P * PCCF_B/100$$

where P is population in thousands as defined earlier, and

PCCF = per capita utilization of a commodity for livestock feed (source: ERS estimates), and the subscript B designates the base period years over which PCCF is averaged.

With this method of calculation, feed use grows from the base period average at the same rate as population. The implication, which is intended for the purpose of additional food need estimates, is that no growth in per capita feed use is provided for. The representativeness of the base period average must, however, be scrutinized when interpreting the calculated levels of feed use. Import requirement estimates for countries experiencing rapid growth in feed use (and livestock production) are constrained by this procedure.

### *Calculating Food Security Stock Adjustments*

This report provides separate estimates of countries' cereal stock levels to ensure food security. Stock requirements are segregated from consumption requirements because, for allocation purposes, ensured food supplies to support consumption may be viewed as the first priority. In addition, the reliability of stock information across countries varies much more widely than consumption. Nevertheless, a program that adjusted additional food need allocations to recipient countries' stock positions could help prevent food emergencies in these countries, and also help reduce abrupt swings in additional food needs from year to year. This would be achieved by allowing for stock building in relatively good years, or when stocks are relatively low, and for stock drawdown in relatively bad years, but only when stocks are relatively high.

In this report, estimates of stock adjustments are made only for the commodity group comprising cereals and cereal equivalents for countries where historical stock data are available. Stock adjustment estimates are limited to the cereal-equivalent category because historical stock data commonly are available only for this commodity group, and because cereals are the predominant food staple in the countries covered in this report. The procedures for estimating stock adjustments outlined below use historical relationships between stocks and consumption in each country. The observed historical ratios of stocks to consumption are used to define the range of adjustment, given the absence of consistent data on stock-building targets and minimally acceptable stock levels to be drawn down to in each country.

The procedures are outlined below in algebraic form. Stock levels are calculated in absolute terms and in terms of increments to be added to (or subtracted from) existing stocks. These increments are then added to estimates of import requirements and additional food needs to support consumption in order to obtain an estimate of total additional needs to support both consumption and stocks. The following variables are used in estimating stock adjustments:

TPCE = total production of cereals and cereal equivalents (quantity);

TCEES = total ending stocks of cereals and cereal equivalents (quantity);

ESR = ratio of ending stocks to total use;

MNESR<sub>B</sub> = average ratio of ending stocks to total use for cereal equivalents during base period B;

MXESR<sub>B</sub> = maximum ratio of ending stocks to total use for cereal equivalents during base period B;

MINESR<sub>B</sub> = minimum ratio of ending stocks to total use for cereal equivalents during base period B;

SQNFU = status quo based estimate of domestic requirements for use (DRNF quantity);

ASL = adjusted stock level (quantity);

SAQ = stock adjustment in terms of the increment to existing stocks (quantity); and

SAV = stock adjustment (value).

Using the above-named variables, the adjusted stock level (ASL) for year t (the first forecast year) is calculated in the following way:

If  $TPCE_t > \text{trend}$  and  $ESR_{t-1} < 1.1 * MNESR_B$ :

$$ASL_t = (ESR_{t-1} + (MXESR_B - ESR_{t-1})/3) * SQNFU_t$$

If  $TPCE_t > \text{trend}$  and  $ESR_{t-1} > 1.1 * MNESR_B$ :

$$ASL_t = ESR_{t-1} * SQNFU_t$$

If  $TPCE_t < \text{trend}$  and  $ESR_{t-1} < .9 * MNESR_B$ :

$$ASL_t = (ESR_{t-1} + (MXESR_B - ESR_{t-1})/3) * SQNFU_t$$

If  $TPCE_t < \text{trend}$  and  $1.1 * MNESR_B > ESR_{t-1} > .9 * MNESR_B$ :

$$ASL_t = ESR_{t-1} * SQNFU_t, \text{ and}$$

If  $TPCE_t < \text{trend}$  and  $ESR_{t-1} > 1.1 * MNESR_B$ :

$$ASL_t = (ESR_{t-1} + MNESR_B)/2 * SQNFU_t.$$

The stock adjustment for year t in quantity (SAQ<sub>t</sub>) and value (SAV<sub>t</sub>) terms is calculated as:

$$SAQ_t = ASL_t - TCEES_{t-1}, \text{ and}$$

$$SAV_t = SAQ_t * IUV_t$$

where IUV<sub>t</sub> is the estimated import unit value for cereals in year t as defined in the following section.

The adjusted stock level for (ASL) for year t + 1 (the second out year) is calculated using the identical equations as for year t with the following substitutions:

1. The subscript t + 1 is substituted for the subscript t.

2. The variable AESR<sub>t</sub> (adjusted ending stock ratio in year t) is substituted for ESR<sub>t-1</sub>, where  $AESR_t = ASL_t / SQNFU_t$

The stock adjustment for year t + 1 in quantity (SAQ<sub>t+1</sub>) and value (SAV<sub>t+1</sub>) is calculated as:

$$SAQ_{t+1} = ASL_{t+1} - ASL_t, \text{ and}$$

$$SAV_{t+1} = SAQ_{t+1} * IUV_{t+1}.$$

Stock adjustments calculated by the procedures described above have the following characteristics:

1. If production is above trend, stocks are built up if they are relatively low and are allowed to remain "high" if they are already "high." "High" is defined as a ratio of stocks to total use greater than 10 percent above the average for the base period. If production is below trend, stocks are built up if they are "low" (10 percent or more below that given by the average base period ratio of ending stocks to total use), left unchanged if they are around the base period mean, and drawn down if they are "high." If stocks are "low," stock building is allowed for in both above- and below-trend production situations for reasons of food security.

2. The rates of stock adjustment used in the calculations are, when building, one-third of the difference between the base period maximum stock ratio and the current stock ratio, and when drawing down, one-half the difference between base period minimum stock ratio and the current stock ratio. A faster rate is used for drawing down than for building because stocks are generally drawn down more rapidly than they are rebuilt. The one-third rate used for stock building implies a 3-year stock building period.
3. The procedures assume the reasonableness of working with minimum, maximum, and mean ending stock ratios observed during the base period, given the lack of consistent data on appropriate stock targets and minimum acceptable stock levels. Moreover, government stock targets, where available, may not be consistent with either historically achieved stock levels or existing storage facilities. The use of adjustments toward, rather than to, the base-period levels diminishes the effect of errors caused by atypical base period observations.
4. The magnitude of year-to-year stock adjustments (SAQ, SAV) depends on both the calculated change in the ending stock ratio in  $t + 1$  and the difference between actual total nonfeed use in  $t$  and status quo-based nonfeed use (SQNFU) in  $t + 1$ . In some cases, abrupt changes in actual and calculated nonfeed use between  $t$  and  $t + 1$  may distort the intended direction of the stock adjustment. (For example, even if the situation calls for an increase in the ending stock ratio (ESR), stocks could decline from  $t$  to  $t + 1$  if the status quo estimate of nonfeed use (SQNFU) for  $t + 1$  was sharply below actual use in  $t$ .) These situations are described in the country narratives.
5. The stock adjustment estimates (SAQ, SAV) can be applied to the consumption estimates for cereals to obtain an overall estimate of import requirements (IRTQ<sub>ce</sub>, IRTV<sub>ce</sub>) and additional food needs (AFNTQ<sub>ce</sub>, AFNTV<sub>ce</sub>) for cereals in the following way:
  - a. If  $IRCQ_{ce}$  and  $IRCV_{ce}$  are negative (implying a surplus of cereals for consumption purposes that can be applied to stock adjustments):
 
$$IRTQ_{ce} = IRCQ_{ce} + SAQ;$$

$$IRTV_{ce} = IRCV_{ce} + SAV;$$

$$AFNTQ_{ce} = AFNCQ_{ce} + SAQ$$

subject to

$$IRTQ_{ce} > 0;$$

$$AFNTV_{ce} = AFNCV_{ce} + SAV,$$

subject to

$$IRTV_{ce} > 0.$$

If import requirements remain negative after adding the stock adjustment, additional food needs are not affected. This situation implies a surplus of cereals above what is needed to support consumption and stock adjustment, but a surplus that cannot be exported for foreign exchange or applied against deficits in other nonsubstitutable food categories.
  - b. If  $IRCQ_{ce}$  and  $IRCV_{ce}$  are positive (implying a deficit in cereals and no surplus of cereals that can be applied to stock adjustments):
 
$$IRTQ_{ce} = IRCQ_{ce} + SAQ;$$

$$IRTV_{ce} = IRCV_{ce} + SAV;$$

$$AFNTQ_{ce} = AFNCQ_{ce} + SAQ; \text{ and}$$

$$AFNTV_{ce} = AFNCV_{ce} + SAV.$$

### ***Calculating Maximum Absorbable Food Needs***

The calculation of maximum absorbable imports and additional food needs is an attempt to estimate the level of imports that could be handled if the highest historical levels of per capita total use and absolute carryover stocks could be attained. The implicit assumption is that the food delivery systems of many of the countries involved have been fully "loaded" by past high levels of consumption. In addition, the highest level of stocks maintained over the previous 8 years is assumed, in the absence of better information, to be the largest level that can currently be maintained. The estimate is intended to provide a crude measure of the amount of food that can be physically absorbed. This level may then be used to scale back nutrition-based additional food need estimates that may be beyond the physical limits of a country's transportation, distribution, and storage capabilities. No attempt is made (here or elsewhere in the report) to assess the impact of such maximum levels on domestic prices or production incentives. These estimates are for individual countries only. No accounting is made of the impact of "loaded" ports in other countries on the capacity to make shipments to landlocked countries. This can be an especially acute problem in Southern and East Africa.

The maximum absorbable level of imports for commodity group j is:

$$(17) \quad \text{MAXIM}_j = P * \text{MAJ}(\text{PCC}_j) + \text{MAX}(\text{ES}) - \text{PR}_j,$$

where:

**MAXIM** = the maximum absorbable level of imports,

**MAX (PPC<sub>j</sub>)** = the maximum of per capita total use in the base period;

**P** = forecast population;

**MAX (ES)** = largest absolute level of ending stocks over the last 8 years;

**PR<sub>j</sub>** = forecast production of commodity group k.

The maximum level of absorbable imports is used as a constraint on the nutrition-based additional food needs, which become the smallest of (in quantity terms):

$$(18) \quad \text{MAXIMQ}_j - \text{CICQ}_j$$

or:

$$(19) \quad \text{IRCQ}_j + \text{SAQ}_j - \text{CICQ}_j$$

where **IRCQ** is nutrition-based import requirements to support consumption, and **SAQ** is the food security stock adjustment in the case of the cereal equivalent commodity group.

### ***Calculating Import Unit Values***

Import unit value (IUV) estimates are used in this report to convert tonnage import requirements (IRCQ) to value estimates (IRCV), and to convert estimated commercial import capacities in dollars (CICV) to tonnage terms (CICQ). Import unit values are computed for each country, year, and commodity group j as follows:

$$(20) \quad \text{IUV}_j = (\text{IUV}_{jB}/\text{USXUV}_{jB}) * \text{FUSXUV}$$

where:

**IUV<sub>jB</sub>** = a country's average import unit value for commodity j during base period B (1983-85 in this report). In some cases, lack of current data has necessitated the estimation of country import unit values from those of nearby countries (sources: FAO and ERS).

$USXUV_{jB}$  = the average U.S. export unit value for commodities in group j during a base period B. The average U.S. export unit values used for each commodity group in the report are as follows: cereal equivalent = wheat; vegetable oils = soybean oil, pulses = dry beans, milk = nonfat dry milk converted to fluid equivalent.

$FUSXUV_j$  = the forecast U.S. export unit value for commodities in group j for the appropriate year (source: ERS).

Estimated import unit values are, therefore, dependent on a base-period ratio between a country's import unit value and the U.S. export unit value for a particular commodity, and on the forecast U.S. export unit value of that commodity. The use of the base-period ratio is intended to compensate for differences in transportation costs to various countries from both U.S. and non-U.S. ports, depending on who the base period suppliers were, as well as quality differences between what a country normally purchases and the U.S. average quality.

### *Calculating Commercial Import Capacity*

A country's capacity to pay for imports of food staples is calculated in two steps. The first formula measures the country's available foreign exchange and is as follows: (all values are in million US \$):

$$(1) \quad FEA = MEE - [(IR_B/MI_B * MI) - IR] - DS;$$

where:

FEA = estimated foreign exchange availability;

MEE = projected merchandise export earnings (sources: World Bank and ERS);

$IR_B$  = international reserves during the base period (sources: IMF and World Bank);

$MI_B$  = merchandise imports during the base period (sources: IMF and World Bank);

MI = projected merchandise imports (sources: World Bank and ERS);

IR = projected international reserves (sources: World Bank and ERS);

DS = projected debt service (sources: World Bank and ERS); and

B = the base period over which IR and MI are averaged, (in this report, 1983-86).

Simply put, this formula states that the foreign exchange available for commercial food imports depends on export earnings, less any allowance for the accumulation or drawdown of reserves and debt service payments. The allowance for reserves is based on the notion that during the projection period a country be permitted to maintain a ratio of reserves to imports equal to the ratio in the base period. The term within the brackets determines the allowance for the accretion of reserves.

To illustrate, take the case of Ethiopia, where, for 1987:

MEE = 675

$IR_B$  = 140

$MI_B$  = 1169

MI = 1300

$$IR = 250.5$$

$$DS = 88.9$$

$$(2) FEA = 675 - [(140/1169 * 1300) - 250.5] - 88.8$$

$$(3) FEA = 675 - [(.1198 * 1300) - 250.5] - 88.8$$

$$(4) FEA = 675 - [155.7 - 250.5] - 88.8$$

$$(5) FEA = 675 + [94.8] - 88.8$$

$$(6) FEA = 681$$

Equation (3) indicates that, from 1983 to 1986, Ethiopia held reserves equal to about 12 percent of imports. After multiplication of this figure by the 1987 import projection, equation (4) shows that \$156 million of reserves are needed to maintain the same reserves/imports ratio. Equation (5) shows the amount of reserves that Ethiopia will accumulate--the difference between reserves needed to maintain the base-period ratio and projected reserves. Equation (6) indicates the available foreign exchange for Ethiopia in 1987.

The next step in the formula determines the amount of available foreign exchange to be applied toward commercial imports of foods in a particular group of substitutable foods (cereals, roots and tubers, pulses, vegetable oils, etc.) designated by the subscript j. This step is specified as follows:

$$(7) CICV_j = FEA * (CFI_j/MEE)_B$$

where:

$CICV_j$  = Estimated commercial import capacity for food commodities in group j;

$FEA$  = estimated foreign exchange available as derived from part 1 of the formula;

$CFI_{jB}$  = commercial food imports of commodities in group j during the base period (sources: FAO and ERS);

$MEE_B$  = merchandise export earnings during the base period (sources: IMF and World Bank); and

$B$  = the base period over which CFI and MEE are averaged (in this report, 1983-86)

This method projects the ability of a country to purchase food imports, based on the percentage of export earnings spent on food imports during the base period.

To continue the illustration with Ethiopia for the food group consisting of cereals, where:

$$FEA = 681$$

$$CFI_{jB} = 16.9$$

$$MEE_B = 509$$

$$(8) CICV_j = 681 * (16.9/509)$$

$$(9) CICV_j = 681 * (.033)$$

$$(10) CICV_j = 22.9$$

Equation (9) indicates that Ethiopia spent roughly 3 percent of its export earnings on imports of cereals during the base period. For the purpose of additional food needs assessment, it is expected that the same percentage, or \$22.9 million, of its available foreign exchange will be committed to import food staples in 1987/88.

A few shortcomings of this method should be noted. Countries that historically have spent a greater share of export earnings on food imports will be expected, for the purpose of this assessment, to spend the same share in forecast years. In contrast, countries that spend relatively little on food will be expected to continue spending that lower ratio.

Furthermore, countries whose base-period reserves-to-imports ratio is high may be permitted to accumulate reserves at a faster rate than countries with a lower ratio. Finally, because debt service projections, in many cases, are based on historical levels of actual payment in relation to export earnings and not on actual debt service obligations, forecasts of debt service may be understated.

## APPENDIX A

*Country populations, 1980/81-1988/89*

### **North Africa**

Year	Egypt	Morocco	Tunisia
1980/81	42,135	20,545	6,489
1981/82	43,365	21,046	6,663
1982/83	45,122	21,546	6,840
1983/84	46,427	22,055	7,020
1984/85	47,765	22,579	7,202
1985/86	49,133	23,117	7,424
1986/87	50,525	23,799	7,591
1987/88	51,930	24,228	7,760
1988/89	53,348	24,800	7,930

### **West Africa**

Year	Benin	Burkina	Cameroon	Cape Verde	Chad	Gambia	Ghana	Guinea
1980/81	3,456	6,138	8,556	289	4,439	631	10,842	4,765
1981/82	3,559	6,268	8,793	293	4,540	653	10,986	4,859
1982/83	3,666	6,414	8,983	297	4,766	676	11,193	4,956
1983/84	3,778	6,569	9,219	302	4,935	700	11,939	5,057
1984/85	3,894	6,733	9,473	306	5,059	725	12,609	5,282
1985/86	4,015	6,907	9,737	312	5,036	751	13,004	5,597
1986/87	4,141	7,094	10,009	318	5,231	774	13,552	5,734
1987/88	4,273	7,289	10,290	324	5,433	796	13,949	5,876
1988/89	4,409	7,492	10,576	331	5,571	818	14,360	6,023

### **West Africa, continued**

Year	Guinea-Bissau	Liberia	Mali	Mauritania	Niger	Senegal	Sierra Leone	Togo
1980/81	784	1,898	6,919	1,502	5,510	5,765	3,419	2,594
1981/82	798	1,960	7,076	1,531	5,680	5,947	3,505	2,673
1982/83	812	2,024	7,237	1,561	5,857	6,138	3,594	2,755
1983/84	827	2,091	7,404	1,591	6,080	6,335	3,687	2,842
1984/85	842	2,160	7,560	1,623	6,271	6,541	3,784	2,931
1985/86	858	2,232	7,721	1,656	6,491	6,755	3,883	3,023
1986/87	875	2,307	7,898	1,691	6,715	6,980	3,987	3,118
1987/88	892	2,384	8,080	1,727	6,947	7,213	4,094	3,216
1988/89	910	2,464	8,267	1,765	7,189	7,454	4,204	3,318

## Central Africa

Year	Angola	Central African Republic	Congo	Equatorial Guinea	Zaire
1980/81	6,993	2,315	1,552	300	26,682
1981/82	7,183	2,382	1,597	317	27,339
1982/83	7,378	2,449	1,644	325	28,248
1983/84	7,558	2,520	1,694	333	28,966
1984/85	7,744	2,589	1,745	342	29,671
1985/86	7,948	2,664	1,798	350	30,505
1986/87	8,164	2,744	1,853	359	31,333
1987/88	8,392	2,827	1,911	369	32,190
1988/89	8,629	2,912	1,970	379	33,076

## East Africa

Year	Burundi	Djibouti	Ethiopia	Kenya	Rwanda	Somalia	Sudan	Tanzania	Uganda
1980/81	4,071	279	39,207	16,431	5,164	6,109	19,038	18,541	12,763
1981/82	4,178	294	40,188	17,116	5,359	6,701	19,671	19,120	13,080
1982/83	4,293	306	41,308	17,832	5,571	6,970	20,331	19,722	13,438
1983/84	4,416	316	42,113	18,580	5,805	7,153	20,993	20,356	13,827
1984/85	4,543	289	42,266	19,371	6,020	7,371	21,632	21,020	14,237
1985/86	4,673	297	43,882	20,194	6,249	7,595	22,932	21,701	14,689
1986/87	4,807	304	45,071	21,044	6,489	7,825	23,570	22,415	15,158
1987/88	4,945	312	46,367	21,916	6,740	8,061	24,279	23,160	15,689
1988/89	5,087	320	47,709	22,810	7,002	8,303	25,008	23,938	16,240

## Southern Africa

Year	Botswana	Comoros	Lesotho	Madagascar	Malawi	Mauritius	Mozambique	Swaziland	Zambia	Zimbabwe
1980/81	902	406	1,339	8,642	6,021	957	12,109	579	5,771	7,338
1981/82	937	418	1,370	8,887	6,209	972	12,365	596	5,953	7,619
1982/83	968	430	1,404	9,139	6,406	984	12,702	614	6,155	7,848
1983/84	1,000	443	1,438	9,398	6,612	996	13,030	632	6,395	8,138
1984/85	1,033	456	1,474	9,665	6,829	1,002	13,244	651	6,617	8,461
1985/86	1,068	469	1,512	9,941	7,056	1,011	13,638	671	6,832	8,678
1986/87	1,104	483	1,552	10,227	7,292	1,020	14,022	692	7,054	8,984
1987/88	1,141	497	1,594	10,523	7,539	1,030	14,420	713	7,284	9,304
1988/89	1,180	512	1,637	10,830	7,796	1,038	14,832	735	7,522	9,639

## Middle East

Year	Lebanon	North Yemen	South Yemen
1980/81	2,649	5,399	1,916
1981/82	2,630	5,535	1,970
1982/83	2,610	5,679	2,027
1983/84	2,598	5,830	2,086
1984/85	2,601	5,989	2,147
1985/86	2,632	6,159	2,210
1986/87	2,664	6,287	2,274
1987/88	2,664	6,287	2,274
1988/89	2,696	6,418	2,341

## South Asia

Year	Afghanistan	Bangladesh	India	Nepal	Pakistan	Sri Lanka
1980/81	15,245	88,200	687,332	14,992	85,219	15,103
1981/82	14,635	90,700	701,531	15,375	88,417	15,373
1982/83	14,208	93,300	716,985	15,769	91,473	15,647
1983/84	14,177	95,900	733,248	16,169	94,140	15,925
1984/85	14,448	98,300	749,557	16,578	96,628	16,212
1985/86	14,751	100,800	765,147	16,996	99,179	16,503
1986/87	15,061	103,400	781,061	17,422	101,797	16,801
1987/88	15,377	106,000	797,229	17,857	104,444	17,100
1988/89	15,700	108,600	813,652	18,303	107,159	17,300

## Caribbean

Year	Dominican Republic	Haiti	Jamaica
1980/81	5,695	5,010	2,242
1981/82	5,837	5,020	2,287
1982/83	5,983	5,030	2,332
1983/84	6,133	5,040	2,369
1984/85	6,240	5,050	2,390
1985/86	6,380	5,060	2,410
1986/87	6,520	5,070	2,440
1987/88	6,660	5,080	2,470
1988/89	6,800	5,090	2,500

## Central America

Year	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
1980/81	2,329	4,717	7,116	3,772	2,410
1981/82	2,387	4,599	7,407	3,886	2,480
1982/83	2,456	4,691	7,626	4,002	2,552
1983/84	2,523	4,800	7,833	4,123	2,626
1984/85	2,589	4,932	8,078	4,246	2,702
1985/86	2,656	5,100	8,320	4,374	2,780
1986/87	2,725	5,253	8,569	4,505	2,860
1987/88	2,796	5,411	8,817	4,640	2,942
1988/89	3,523	5,573	9,073	4,779	3,015

## South America

Year	Bolivia	Colombia	Ecuador	Peru
1980/81	5,349	24,833	7,996	17,625
1981/82	5,476	25,217	8,220	18,119
1982/83	5,608	25,630	8,450	18,631
1983/84	5,742	26,068	8,686	19,161
1984/85	5,880	26,528	8,930	19,708
1985/86	6,021	27,012	9,180	20,273
1986/87	6,165	27,498	9,437	20,855
1987/88	6,165	27,498	9,437	20,855
1988/89	6,312	27,993	9,701	22,068



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